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ORIGINAL ARTICLES.

CLIMATOLOGY OF CALIFORNIA.*

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WHEN passing Cerigo, the traveler in Mediterranean waters wonders if that can really be the far-famed Cythera where Venus rose resplendent from the sea. A sun-baked, wind-worn rock meets his view and the obvious conclusion is that either great natural changes have taken place there since the poets sang, or else these ancient writers held not closely to the truth. How frequently is the traveler disappointed because imaginative writers have all too glowingly described some locality! And possibly this holds somewhat in descriptions of California. On the other hand, a bald statement of fact and a table of physical data tell the story of a place very inadequately. Particularly is this likely to be the case where meteorological data are given. The writer has in mind the islands lying in the Pacific about 25 miles due west of San Francisco. If tables of mean temperature, daily range or annual range of temperature, extreme temperatures, etc., be considered only, the Farallones will compare favorably with any portion of California. Yet few of us are willing to dwell upon the islands. If then we are to keep meteorological records, by all means let these be as complete and detailed as possible. Dr. Hann has given the following list of climatic factors which should be embodied in the discussion of the climatology of a locality. And it need only be said that full as this list seems to be it but partly tells the story of the climatology of any place. The different factors are:

1. The monthly and annual mean temperature.
2. The mean diurnal range for each month.
3. The mean temperature at two given hours.
4. The extreme limits of the temperature of the months.
5. The monthly and annual extreme temperatures.
6. The absolute highest and lowest temperatures.
7. The mean variability.
8. Frost data.
9. Insolation or solar radiation.
10. Terrestrial radiation.
11. Soil temperatures.
12. Absolute humidity.
13. Relative humidity.
14. Total precipitation: rain, snow, fog.
15. Maximum precipitation per day and hour.
16. Number of rainy days.
17. Percentage and probability of rainy days.
18. Snow: depth, duration, number of days covering ground.
19. Dates of first and last snow.
20. Hail-storm frequency.
21. Thunder-storm data.
22. Cloudiness.
23. Fogginess.
24. Nights with dew.
25. Air movement or wind velocity.
26. Frequency of wind direction.
27. Pressure data.
28. Evaporation data.
29. Impurities: number of dust particles, bacteria, etc.
30. Electrical potentials.

To this long list Professor Abbe (Maryland Weather Service, page 266) adds:

31. Sensations experienced; *e.g.* mild, balmy, invigorating or depressing, expressing the integrated effect of the various factors upon the human body.
32. The number of storm-centers passing over the locality; *i.e.* briefly, its storm frequency.
33. Frequency of severe local storms.
34. Duration of twilight.
35. Blueness or haziness of the sky.
36. Frequency and degree of sudden changes from warm to cold, or moist to dry.

This makes a formidable list; and in California some of these factors are of but little consequence. Others, such as the distinctive features of fog, air drainage, character of soil, and topographical barriers to air movement, are of the utmost importance.

From the health-seeker's standpoint honest, unvarnished descriptions of the northers of the great valleys, the Santa Anas of the south, the trying west winds of the Bay section, are essential.

In discussing the Climatology of California two broad propositions appear: (1) Air Motion, and (2) Air Purity. To these all that can be determined concerning the amount and behavior of the water vapor should be added; for when all is said and done it is this factor, this most Protean of the elements, which determines our comfort. It exists independently of the air, and we know it as rain, snow, hail, frost, dew, fog or cloud, from the lowest stratus to the highest cirrus. If we live below it, as we too frequently do, it will determine the range of temperature, the frequency of change, or the equability; the amount of sunshine, for it is the veil between us and the sun; the cloudiness, the rainfall, and even the relative purity of the atmosphere. Our atmosphere is composed of oxygen, nitrogen, carbondioxide, argon, krypton, helium, neon, xenon

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and vapor of water. But first and foremost in determining climate is water vapor.

California faces the ocean. Small wonder then that along the coast, and wherever there is an open thoroughfare for the winds from the sea, the temperatures are nearly constant. The coastline of nearly 1,000 miles shows a difference of but 5° C. or 9° F. in the mean annual temperatures of its northern and southern limits. At Eureka the temperature is 11° C. (52° F.); at San Francisco 13° C. (56° F.) and at San Diego 16° C. (61° F.). If we compare these figures with those of three points on the Atlantic seaboard practically corresponding in latitude, we find that New York has a mean temperature of 11° C. (52° F.); Washington, 13° C. (55° F.); and Savannah 19° C. (67° F.). In tabular form the difference between the two seaboards may be shown as follows:

Pacific Coast	11°—16°C.=5°C. 52°—61°F.=9°F.	or 1°F. variation for every 80 miles.
Atlantic Coast	11°—19°C.=8°C. 52°—67°F.=15°F.	or 1°F. variation for every 53 miles.

But as we intimated above, mean temperatures do not tell the whole story. To test the relative equability of temperature compare these figures:

	EUREKA		SAN FRANCISCO		SAN DIEGO	
January	8° C.	47° F.	10° C.	50° F.	12° C.	54° F.
July	13° C.	56° F.	15° C.	59° F.	19° C.	67° F.
Range	5° C.	9° F.	5° C.	9° F.	7° C.	13° F.
	NEW YORK		WASHINGTON		SAVANNAH	
January	-1° C.	31° F.	1° C.	34° F.	11° C.	52° F.
July	23° C.	74° F.	25° C.	77° F.	28° C.	82° F.
Range	24° C.	43° F.	24° C.	43° F.	17° C.	30° F.

Here there is a marked difference, and if the physician desires for the patient a climate not subject to large temperature variations, eliminating, as it were, the extremes of summer and winter, the Pacific seaboard offers decided advantages.

In January, as you go south on the Atlantic side, it grows one degree warmer for every 40 miles. On the Pacific side as you go south in January it grows one degree warmer for each 115 miles. Decided changes in temperature, however, can be obtained by traveling a few miles either east or west, and also, owing to the peculiar topography of the State and the marked changes in elevation, can be found at many points within a journey of an hour or two. Before we leave the matter of monthly mean temperatures reference should be made to the isotherms of January, as compared with those of July. The same general north-and-south trend of the isotherms may be noticed; but during July high temperatures are experienced generally throughout the State in summer months, except along the coast. In brief, isothermal maps show that the so-called winter months in California are the really pleasant months of the year. Note that the isotherm of 40° in January extends well over the central and northern portion of the State, while in July the isotherm of 80° traverses the northern as well as the southern portion of the State. During the summer months one has only to move inland from the coast a distance of less than 100 miles to experience temperatures 30° or 40° higher than the coast temperatures.

Even more remarkable than the temperature distribution is the rainfall of California. In no other portions of the United States are the rainfall periods so differentiated. There are two well-marked seasons, the dry and the wet. The former covering the months of May, June, July, August and September; and the latter the rest of the year. The mean annual rainfalls vary from one to 75 inches. There are places in the southeastern portion of the State where the total rainfall for a period of 25 years will hardly amount to two inches, and not infrequently a year will pass at these points without an amount of rain exceeding 0.01 of inch. In the northern portion of the State the rainfall is very heavy. In some of the northern coast counties, and also in the mountains to the east and southeast of Shasta, rainfalls averaging over 80 inches in a year have been recorded. In years of very heavy rainfall at some of these points more than 100 inches have fallen. The following are some single-year rainfalls: La Porte, 120 inches, 1896, 101 inches, 1898; Delta, 111 inches, 1889; Upper Mattole, 102 inches, 1896. In the central and northern portions of the State, and in the mountains of the south, snow is not infrequent. At Summit an annual snowfall of 697 inches has been recorded.

Little rainfall then is expected during the summer months, but if the rainfall is deficient during the wet season the various interests of the State suffer materially. And this question of whether the rainfall during a given season will be deficient is probably the most important one with which the climatologist has to deal.

An interesting illustration of this variation in the seasonal rainfall is given by the isohyetals for January and February, 1902. The month of December, 1901, had been exceptionally dry. The month of January continuing dry, the outlook was disheartening, and while the invalid might enjoy life out of doors, the business man and the farmer were worrying themselves sick. The excessive rainfall for February, 1902, saved the entire community from great losses and, as if by magic restored confidence and courage.

Another point plainly brought out by these rainfall maps is the variability both of the rain intensity and the rain frequency. During the month of January, ordinarily the month of greatest rain frequency in California, there were but 13 rainy days, while in the next month rain fell on practically every day. The number of rainy days is probably the factor most frequently asked for by physicians in determining the climatic character of a place, a rainy day being defined as one on which 0.01 of an inch of rain or more falls. And yet there are few conditions more misleading in helping us to form a true estimate of the climatology of a place than the so-called number of rainy days. There should always be furnished in addition to the number of rainy days some statement as to the general character of

the precipitation itself; for example, whether the rain falls in showers with intermittent sunshine, or whether the rains are continuous and the sky is overcast.

The wind system of California is, like the rainfall and the temperature, characteristically different from the wind systems of other portions of the United States. Here again the topography plays an important part in modifying the circulation of the lower strata of the atmosphere. In the coast and bay section there is a well-marked draft through the Golden Gate and into the great valley. Particularly noticeable is this motion on summer afternoons, and many of the fog phenomena so remarkable on this coast may be explained in connection with these strong westerly winds. There is also a well-marked movement of the air from the north, thermodynamically warmed in the summer months by its passage over the mountains, and giving rise to the very disagreeable "northers" of the great valley and the "Santa Anas" of the south.

With regard to sunshine, except along the immediate coast, few portions of the United States can equal California. Over more than half of the State the normal annual sunshine exceeds 75 per cent. of the possible sunshine. Along the coast this is reduced to 50 per cent.

Both in the matter of air motion and in that of air purity California enjoys great advantages.

To sum up the general climatic factors of this land of sunshine and of fog, of heavy rainfall and of scant rainfall, this land of contrast—California—we note first that because of its proximity to the ocean, which is a great natural conservator of heat, the temperatures are as a rule moderate and equable. Secondly that because of the exceedingly diversified topography the climatic conditions are likewise much diversified; thirdly, that the prevailing easterly drift of the air in our latitudes brings a constant supply of fresh air, neither too hot nor too cold, to most of the State, and fourthly, that owing to the general path of storm movements lying farther to the north, California escapes many of the disturbances so familiar elsewhere. All these combine to give a climate different from other sections of our great country. The effect of the climatic environment is well shown in the flora of the State. What influence the climate will exert on man, and what the ultimate record will be, is for other pens than ours.

THE CLIMATE OF THE EASTERN FOOTHILLS OF SOUTHERN CALIFORNIA.

BY C. A. SANBORN, M.D.,
OF REDLANDS, CALIFORNIA.

JUST where the dividing line between the Eastern and Western foothills may be, I know not. We will, however, draw an imaginary line, beginning at the mouth of Cajohn Pass and encircling the East San Bernardino valley, taking in Riverside, just across the divide, the city of San Bernardino, Highlands, Redlands and Colton, to the mouth of San Timateo Cañon. Extending this line east we reach Beaumont, Banning, Palm Springs, and Indio. Except for the coast climate, we have every variety, from that on the desert, below sea-level, to any altitude up to 10,000 feet.

When I asked one whom we consider authority on climate what he thought of Southern California, he answered: "What has been said of Florida is true of Southern California." This notion is erroneous and seems to me to be too prevalent.

On May 1 a physician in San Francisco wrote to me to know if his patient could longer endure the heat of the South, and whether he had not better request him to return home! A physician in Pittsburg thinks a longer stay for his patient "will undo all the good which the winter months have brought about."

The fact is that there are in this section few days during the whole year too warm to enjoy and thrive in. It is said there are 320 days of sunshine in the year, the other 45 days covering all weather disagreeable from rain, wind and heat. We do not mention cold, for while it is cool and bracing through the winter months, the thermometer seldom goes below 32° F. During my 15 years' residence and experience in orange-growing in Redlands I have never found frozen fruit in my orchard, although ice often forms to the thickness of a third of an inch. This is probably due to the currents of air, and to the fact that the cold is of short duration in the early morning, the coldest time being just before sunrise.

What I may say of Redlands, which I choose as the center of the region to which I desire to call attention, is in a measure true of all the towns in this end of the valley, climatic conditions varying somewhat with altitude and exposure. The average altitude of Redlands is 1,200 feet, the valley at this point being about six miles wide. On the north, standing like giant sentinels, and at present snow-capped, are the peaks of the San Bernardino Range, having altitudes of from 3,000 to 11,500 feet, the ventilation being through cañons opening upon the Mojave and Colorado deserts. These mountains form three-quarters of a circle, the range on the north extending to the sea, that on the south breaking into irregular and isolated low peaks which trend, towards the south, to Riverside and beyond, while on the other side of this gap low peaks form an uninterrupted chain towards the sea. Between the high mountains on the north and the low ones on the south come, during the summer, our trade-winds, rushing into the vacuum caused by the intense heat on the desert during the day, returning over mountains which are sufficiently high to cool the air during the nights. Thus the majority of days are rendered cool during the summer months, and the nights almost invariably so.

For the past three years the average temperature of the four months exhibiting the greatest extremes of heat and cold is given as follows:

JANUARY.

Mean maximum temperature, 62° F.; mean minimum temperature, 40°; relative mean humidity, 55 per cent.

FEBRUARY.

Mean maximum temperature, about 69° F.; mean minimum temperature, 42°; relative mean humidity, 60 per cent.

JULY.

Mean maximum temperature, about 95° F.; mean minimum temperature, 58°; relative mean humidity, 55 per cent.

AUGUST.

Mean maximum temperature, about 91° F.; mean minimum temperature, 58°; relative mean humidity, 55 per cent.

I dare say many of you are expecting me to recommend this climate of the Eastern foothills as one especially adapted for tuberculous troubles. Patients with pulmonary lesion, not far advanced, do well in this climate—especially in that part of the valley where orange-growing and the consequent dampness from irrigation do not prevail. Just here I should mention the irritation to the respiratory tract brought about by the extensive use of commercial fertilizers. A prevalence of tonsillitis and pharyngitis among old and young has been quite noticeable, occurring at the time of the spreading of this necessary adjunct to the production of our citrus fruits.

Physicians must not expect that climate and climate alone can bring back health to patients having tubercular lesions. An out-of door life, however, in this nearly perfect climate may in some instances revolutionize a patient's physical condition. Besides climate there must be conditions to promote contentment. Some slight occupation should be taken up as soon as strength permits. The patient with means has the advantage over one who is less well supplied with this world's goods, as he can have the supervision of an orange-ranch, or some equally pleasant and profitable occupation. I cannot emphasize too strongly the necessity for contentment of mind for the health-seeker, and this cannot be assured without employment.

I am often asked what causes the nervous troubles which are apt to prevail in Southern California. There are many factors entering into the causation of the increasing tendency of both sexes toward nervousness. North winds and altitude are not alone responsible for these conditions. Continued eye-strain, from a succession of bright days without proper protection for the eyes, causing headaches, predisposes not only invalids but also healthy persons to nerve-exhaustion. But nostalgia is probably the most important factor. However much the sun's rays may irritate the eyes and burn the skin, they do not relax the nervous system so much as does the sultry summer atmosphere of the East.

It is not my purpose to defend our climate, or to apologize for its few drawbacks. All things considered, we have here in these Eastern foothills as nearly perfect a climate as can be found anywhere.

As Southern California grows conditions for recreation and contentment multiply, and it is my firm belief that in the near future nervous troubles will be less and less prevalent.

With such a climate, and with the class of people who are coming here to make their homes, we ought to produce the ideal race, mentally, morally and physically.

Every detail for the best physical and mental development of the child should be carefully looked after. There should be proper food, proper clothing, and a school year regulated with some regard to climatic conditions. As the child is father of the man, our children, offspring as many of them are of semi-invalid parents, should be carefully nurtured and all hygienic measures for them carefully pursued.

THE CLIMATE OF MAINE.*

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THE State of Maine is the largest and, from a climatic standpoint, the most interesting State in New England. The single county of Aroostook is larger than the State of Connecticut and but slightly smaller than Massachusetts. Vast areas of Maine are wild and uninhabited. In the interior there are 1,700 beautiful lakes, many of them at an elevation of more than 1,000 feet.

	Feet above sea-level.
Rangeley	1,513
Mooselucmaguntic	1,486
Richardson	1,456
Umbagog	1,256
Long Pond	1,094
Attean	1,094
Wood	1,094
Moosehead	1,023

The Penobscot, Kennebec, Piscataqua, Allagash and St. John Rivers, rising in the mountains of Maine, penetrate the State in all directions. Katahdin is the highest mountain, attaining a height of 5,385 feet.

Maine abounds in spruce, hemlock and white pine; and the lumber interests have been a great source of wealth. The soil is sandy. The coast is noteworthy for its innumerable indentations, with harbors protected by headlands and outlying islands, so that it is admirably adapted for maritime pursuits. The shore-line, if extended in one direction, would stretch for 3,000 miles. The coast is rocky and picturesque. The bays are deep and afford safe anchorage. The islands off the coast are especially noteworthy. Among them, beginning with Campobello and Grand Manan, which are British possessions, although almost within our territory, may be named

* Read before the Section on General Medicine, New York Academy of Medicine, being a part of a symposium on Summer Climates and Climatotherapy.

Mount Desert, Deer Isle, Isleboro, Isle au Haut, Vinal Haven and North Vinal Haven, Monhegan, Squirrel Island, and the islands of Casco Bay.

The harbors of note are Passamaquoddy Bay, Machias Bay, Frenchman's Bay, Penobscot Bay, Booth Bay, Portland Harbor and Casco Bay, including the waters between Portland and Harpswell; Biddeford, Cape Porpoise, York Harbor and Kittery.

Climate.—The climate of Maine is cold and stimulating, and is noted for its severity. On the coast the diurnal range of temperature is small, and the annual range is from 98° F. at Belfast to 109° F. at Portland. The maxima are 94° F. at Bar Harbor; 90° F. at Belfast; Eastport, 88° F.; Gardiner, 97° F.; Portland, 97° F. The minima are: Bar Harbor, 10° F.; Eastport, 12° F.; Portland, 12° F.; Gardiner, 13° F. The mean daily range is from 15 to 17° F.

The cold in winter is penetrating. In the summer there is a corresponding advantage, in that the prevailing breezes are always cool; and, as the shore-line is so nearly easterly, the southerly and southwesterly breezes come from the water. The sea-breeze is an interesting feature of the coast, and on it depends much of the pleasure of summer life. It usually begins at about 9 or 10 A.M., and lasts until 4 or 5 o'clock P.M. It lowers the temperature as it penetrates the interior. It is more distinct on warm, clear, quiet days, and is absent on cool, cloudy and rainy days, and on days with strong winds in any direction. The rate of the sea-breeze is from 10 to 15 miles an hour, and it produces a very agreeable depression of temperature on the coast; but this depression is not carried inland as far as its wind extends.

The mean minimum and the mean maximum temperature for July and August are given in the following table for nine stations in Maine. Gardiner and Lewiston are about thirty miles inland; Orono and Fairfield are 40 miles inland, and the other stations are on the coast.

	Temperature F.				
	Mean Minimum.		Mean Maximum.		Annual
	July	Aug.	July	Aug.	
Eastport	54	54.4	67.4	66.3	41.3
Calais	56.5	55.	75.2	74.3	
Bar Harbor	56.3	55.3	74.	73.	
Sorrento	54.5	53.5	72.8	72.2	
Lewiston	60.7	56.3	75.7	74.7	
Gardiner	59.5		75.6		43.8
Portland	59.6	57.	73.1	72.2	
Fairfield	54.4	51.4	78.1	75.2	
Orono	58.2	55.8	74.	74.6	42.1

The mean summer temperature for the northern third of the State is precisely the same as for the southern two-thirds; namely, 62.19° F.

The yearly movement of wind is the same as that of New Haven, Conn., and a trifle less than at New York—or about 72,000 miles a year. It is about 25 per cent. less than at Boston and Nantucket, and about half that of Block Island. The annual precipitation averages 49.69 inches at Eastport, 45 inches at Gardiner, 41 inches at Portland. The mean summer rainfall of the State is 11.13 inches.

There is considerable difference in the precipitation of moisture between the northern and southern slopes—the mean annual fall on the former being 36.71 inches and on the latter 43.56 inches.

Pulmonary Tuberculosis in Maine.—There has been a noteworthy and uninterrupted diminution of the number of deaths from pulmonary tuberculosis in Maine during the last 10 years. The annual number of deaths from this disease has fallen in that time from 1,352 to 1,015. This is a decrease of from 20.24 to 14.69 per 10,000 of population.*

In 1899 consumption had fallen from second place in 1897 to fourth place on the list of fatal diseases, being exceeded by Brain disease, Pneumonia, and Heart disease. Consumption death-rate per 10,000:

Maritime Counties.		Interior Counties.	
Washington	18.82	Aroostook	13.75
Hancock	15.84	Penobscot	14.62
Waldo	20.37	Kennebec	14.94
Knox	12.13	Piscataquis	11.86
Lincoln	15.07	Somerset	13.64
Sagadahoc	8.89	Franklin	15.30
Cumberland	16.55	Oxford	11.82
York	13.45	Androscoggin	13.22
Average	15.14	Average	13.64

An analysis of the deaths from pneumonia shows that the mortality from this disease averages precisely the same in the interior counties is in the maritime counties. Aroostook and Washington counties have the least, while Somerset and Cumberland counties have the most. Infantile diarrhea is more common in the interior counties than on the seaboard.

The interior counties of Maine are interesting to us chiefly for the wonderful opportunities for camping and hunting expeditions. Aroostook County affords these to perfection, and may be visited from the time the ice goes out of the lakes until December 15, when the hunting season is over. Toward the end of May notice is sent to the Associated Press that the ice has left Moosehead Lake. One day the lake is covered with porous ice; the next, a strong wind may start the break-up, and in a few hours the lake is clear and the season for trout-fishing opens. Up to about the middle of June the fish take live bait or worms; after that, the fly. In July the brook-fishing affords better sport. There are also some landlocked salmon in Moosehead Lake, and in the Moose and Kennebec rivers. Sea-salmon run up the Penobscot and from its east branch up the Wissataquoik, around the north spur of Katahdin. In Northern Maine salmon come up the Aroostock River from the St. John. They are more difficult to take than landlocked salmon.

* This is attributed to the fact that the people "are understanding more and more clearly the significance of the fact that consumption is a preventable disease and should be prevented." A circular on the prevention of consumption has been widely circulated in Maine for the past ten years and is a part of a campaign of education for the prevention of disease.

Some idea of the magnitude of Maine as a hunting-ground may be gathered from the fact that during 1900 it was estimated that not less than 10,000 sportsmen visited the State, and competent judges estimated that within its borders not less than 15,000 deer were killed. The Bangor and Aroostook Railroad in that year carried 3,379 deer and 210 moose, besides bears and other game. In three years 10,000 deer were shipped by this road alone. These figures are from records kept by station-agents, and do not include deer killed by native hunters or the large quantity consumed in camps. Washington County is also a great hunting-ground, and is believed to contain more bears than all others parts of the State. Moose, deer and fish also abound here, and the various stations on the Washington County Railroad may be reached in about 16 or 18 hours from Boston.

The game-laws of Maine are strict. Non-resident sportsmen must be accompanied by a registered guide. The penalty for killing more than one moose is a fine of not less than $500 nor more than $1,000, or imprisonment for not more than four months. The penalty for killing a deer illegally is $40. No one may kill more than two in a season. Trout may be taken from the time the ice leaves until September 15.

The best bass-fishing in the United States is found in Great and Long ponds, near Belgrade Mills, five hours from Boston, about half-way between Augusta and Farmington. The best trout-fishing in the United States is in the Rangeley Lakes in southwestern Maine. These are reached in about eight hours from Boston, *via* Portland and Rumford Falls, and they afford ideal sites for camps. As a proof of the remarkable trout caught in these waters I may mention the fact that a brook-trout weighing 11 pounds, 28½ inches long and having a girth of 16¼ inches was caught in Lake Mooselucmaguntic by my uncle, the late Dr. Charles Haddock, of Beverly, Mass. There is no other place in the United States or Canada, so far as I know, where square-tailed trout of this size may be taken.

Birds are not common in the Maine woods. Evergreen forests do not afford attractive nourishment for them, but in the southwestern portion grouse are found.

When it is considered that almost the entire State has become a pleasure park; that during the "heated season" nearly every section has its quota of visitors from beyond the limits of the State; that the woods and lakes, as well as hills and shores, are visited by thousands whose temporary habitations are camps and tents, and whose names are not found upon the registers of large and fashionable hotels; that the pursuit of game and fish by this class of visitors has furnished, during the past season, remunerative employment to 1,316 registered guides, the enormous extent of the summer-tourist business of Maine can be understood and appreciated, and justifies the claims of well-informed authorities that more than 200,000 visitors and $10,000,000 have been brought into the State during the past season through the attractions of its summer resorts.*

The Islands.—Campobello (latitude 44° 57′ north), just beyond the border of the United States, is a picturesque island in Passamaquoddy Bay, 70 miles northeast of Mount Desert, and three miles from Eastport. It is a favorite summer resort and has a cool and bracing climate.

Washington County, the easternmost part of Maine, abounds in hunting and fishing camps. There are hundreds of streams abounding in trout and salmon, and deer are frequently seen. Always cool in summer, it is a region of intense cold during the winter. The air is sharp and invigorating. The principal camps are at Cherryfield, Columbia Falls, Machias, East Machias, and Franklin. These camps have a capacity of from 10 to 15 guests, and the rates charged are, as a rule, one dollar a day. Further information as to camps and guides can be obtained from the Game Warden of Washington County, or from H. F. Dowst, Calais, Maine.

Mount Desert Island lies close to the northeastern end of the Maine coast. Its coast is rocky and indented by numerous bays. The climate is invigorating, cool, with abundant rain and occasional fog. The air is too chilly and damp even in summer for very delicate persons or those suffering from pulmonary or catarrhal affections. It is suitable in neurasthenia, insomnia, convalescence from chronic illness, and for recuperation from general nervous and mental fatigue. Although Mount Desert is not over 16 miles in diameter, it possesses 13 mountains and 13 lakes. Green Mountain, the highest summit, has an altitude of 1,500 feet. The principal harbors are Bar Harbor, Northeast Harbor, Southwest Harbor and Seal Harbor. These are all popular resorts for three or four months in the year. Bar Harbor attracts most visitors and is the most fashionable resort, but the others have superior natural advantages and are far less expensive for visitors. Bar Harbor his six hotels and a large number of cottages. The latter rent for from $600 to $5,000 for the season.

Frenchman's Bay, lying north of Mount Desert Island, is about eight miles broad, and is an occasional anchorage for warships.

Winter Harbor is reached *via* Bar Harbor, and has an attractive, well-kept hotel on Grindstone Neck, a portion of the mainland. There is a superior club-house, and the harbor affords good anchorage.

Castine is a quiet, picturesque summer resort at the head of Penobscot Bay. It has a cool, stimulating climate and affords excellent opportunities for sailing. The accommodations are rather primitive, and access is by steamer from Portland, Belfast or Bangor. Islesboro is in many respects one of the most desirable resorts on the coast. The southern end of the island is controlled by a company which has built a large

* Report of the Bureau of Industrial and Labor Statistics for 1897, p. 69.

inn and has secured the support of gentlemen in Philadelphia, New York and Boston in erecting some of the most beautiful summer residences on the coast. Isle au Haut, Camden, Rockland and the islands near Bath are also well-known resorts.

Near Portland there are numerous islands which support a large summer population. As a rule the accommodations are very moderate and unpretentious, Orr's Island and Bailey's Island are among the most desirable.

Old Orchard Beach has lapsed from its former prestige and, although largely visited in July and August, does not appeal to those who seek quiet, and at the same time choice surroundings.

Kennebunkport is one of the best places on the Maine coast for summer residence. It is pre-eminently cool, free from fog and full of natural attractions. There are nearly 100 cottages and a few moderate-sized hotels where visitors may be made very comfortable. The average temperature during July, 1900, was 67.2° F. at 8 A.M.; 71.7° F. at 2 P.M., and 67.2° F. at 8 P.M.; in August, at 5 A.M., 60.2° F.; 8 A.M., 66° F.; 2 P.M., 69.5° F.; 8 P.M., 64.4° F. Situated about 25 miles south of Portland, it is much more accessible than the resorts further east, and the water is warmer and excellent for sea-bathing. The temperature of the water ranges from 57° to 67° F. during the summer, averaging 62° in July, 61° in August and about 60° in September.

York Harbor is an attractive old town with a summer colony of moderate proportions.

The mineral springs of Maine deserve mention. The most famous locality of these is Poland Springs. There is probably no mineral water in the United States that has a wider sale. It is a pure, palatable, diuretic water containing 3.67 grains of solids per gallon, the principal ingredient being silica. The resort is open winter and summer and the water is shipped all over the United States.

LACERATIONS OF THE UTERINE CERVIX AND THEIR SEQUELÆ.

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MORE than twelve years ago I reported some cases of laceration of the uterine cervix treated without operation,* and expressed the opinion that a large proportion of these cases can be cured by this method. Continued experience has caused me to advise operation in a smaller precentage of these cases each year. Of course there are some which have gone so far when first seen that there is nothing to do but operate, but increased skill in the treatment of these unpromising cases has been followed by a constant decrease in the number requiring the resort to surgery for their relief. Consequently the number of women restored to a condition of health and usefulness without operation is larger each year. Cases that formerly were sewed are now healed with more satisfactory results and without the risks and inconveniences of an operation.

An eminent man has said that a resort to surgery is a confession of therapeutic failure. In no field of medicine is this truth more frequently forgotten than in the treatment of the diseases of women. The fascinations of surgery lead to many operations that might be avoided. Conversatism in this respect will save both physician and patient from the embarrassment of those annoying and unhappy situations where the patients find themselves little, if any degree, relieved of the symptoms for which they sought advice. They are disappointed when they find after the operation that further treatment is needed.

The removal of some healthy tissue is absolutely necessary to get all the diseased tissue away with the knife, and this leads to more or less mutilation, but the most undesirable result of this treatment is the cicatricial plug that always forms after an operation. The ideal result is when this cicatrix is only a line of union, but this is rarely attained, and when it is not, this hard zone of inelastic tissue will cause the same train of symptoms that are found when a torn cervix is permitted to attempt its own restoration unaided by any treatment. These results following operation are frequently more difficult to cure by local applications than the original condition would have been.

The results obtained by local treatment are always more satisfactory than those from operation. When a perfect cure is made the cervix has absolutely no cicatricial tissue left in it. This can be secured if the treatment is correct and long enough continued. Such a result is rarely, if ever, seen after an operation unless the operation-scar is removed by subsequent treatment. Consequently it is better to cure from the beginning by that means and save the patient from an operation. The time and patience required by this method are well repaid by the better results that follow its use.

The fact that patients are so frequently seen who have been operated upon by the best surgeons in this field, but are still uncured, is proof that it is not so much the want of skill in operating that is at fault as it is the fact that no operation will cure them. The best results are obtained by treatment, and the operation should only be resorted to in the very few cases where the local and systemic use of remedies fails.

The symptoms caused by a laceration in the neck of the uterus are too well known to require more than a brief enumeration. They may vary in degree from a condition giving the patient almost no inconvenience to one of severe suffering. The most pronounced are backache, headache and pains in the pelvis. Any or all of them may be present. The backache is frequently confined to the lumbar region, but may extend from the sac-

* Minor Lacerations of the Cervix, Medical Record, January 18, 1890.

rum to the base of the skull. It is frequently very intense and may oblige the sufferer to keep her couch much of the time. The headache is usually at the top of the cranium, and often extends downward to the nape of the neck, there joining the backache, so that a consecutive line of pains extends from the crown to the tip of the coccyx. This aggravated condition is fortunately not so common now that women are becoming better informed as to the relief they can secure from early treatment.

Frequently the headache is spoken of by the patients as a weight or a feeling of pressure on the top of the head. When this symptom is present the pelvis should always be examined, even if no other indication for such examination is found. Rarely there is a frontal headache, but when complained of it will usually be associated with some disturbance of the digestive tract, and it is probably due to this cause rather than to the pelvic condition.

The pains in the pelvis may vary from a slight feeling of heaviness to the most acute attacks of sharp, lancinating pain. When this intense pain exists it is often due to an associated disease of the uterine adnexa, which involvement is frequently a sequel of the injury to the cervix. When the pathological condition is chiefly limited to the uterus the pains are more likely to be described as an aching, or as "bearing-down pains."

Leucorrhea is almost always present with a torn cervix. It varies in amount from a little moisture that the patient scarcely notices to a profuse, thick discharge which may cause her to wear a napkin to protect her clothing. If the discharge is bloody there is either a pronounced endometritis or a break in the continuity of the cervical mucous membrane. Bloody leucorrhea is an indication for prompt and continuous interference, as this symptom is so often the first evidence of malignant disease, and it may be present a number of months without any other symptom, pain being frequently absent until the disease is quite far advanced. This caution is particularly called for in cases where the patient is more than thirty-five years old. These cases cannot receive attention too early. Energetic treatment, if begun in time, will save many from serious danger. While it is not proved that cancer can develop from a neglected cervix which is torn and raw from irritating discharges, I have seen many cases that looked as if malignant disease were inevitable in which prompt and energetic treatment has effected a radical cure. It is a safe plan to treat a torn cervix as early as possible, and to continue treating it until it is restored to a normal state.

In order to get results in the treatment of laceration of the cervix thorough attention to details is essential. It is necessary to study the requirements of each case by itself. It is not enough to follow a routine of introducing some cotton through a speculum, treating all with the same solution, inserting a tampon, and then fondly imagining that the patient is being treated. Failures are usually the result of this kind of work. The individual indications must be studied in each separate case and treatment applied accordingly.

Extensive tears of the cervix can be healed and the parts restored to their normal condition if treated properly. The patient's cooperation must be secured from the beginning. This can almost always be done if she is honestly told that her trouble is of such a nature that its removal is a matter requiring much time and patience. The great importance of presenting herself regularly for treatment must be impressed upon her mind, and the alternative of an operation made plain to her. She must also be instructed in the matter of using douches and keeping her bowels regular. The average woman is wofully ignorant in regard to both of these matters, and they are her most important part in the treatment. The douches should always be taken with the patient on her back, the hips a little higher than the shoulders. The fountain syringe should be used, and its capacity should be at least two quarts. The reservoir should never be more than three feet above her hips, and should be less than that if it causes the least pain. The temperature of the water must be regulated to suit the case. If there is ovarian complication it should not be too hot, but on general principles hot water is more beneficial than warm water. The importance of proper douching is evidenced by the fact, well known to many, that this alone will frequently heal a fresh tear, made at confinement, without any other treatment. Besides the cleansing action of the hot water the medicinal effect of the local application of heat directly to the tissues is good. The best time for taking the douche is at night and in the morning.

The need of a free and complete emptying of the bowel must not be forgotten. The general system is benefited by keeping the bowels regular, and the local congestion is lessened by the daily evacuation. A tablet containing cascara sagrada, aloin, nux vomica and belladonna will answer well in most cases, but if a more active purge is indicated a saline taken each morning before breakfast will be found very efficient. It is a good rule to insist on one large bowel-movement each day and to be sure that it is secured.

Laceration of the cervix is seen in all stages, from a unilateral tear that is only a slight depression in one side of the outer rim of the cervical cone to a deep separation extending to the line of union of the cervix with the vault of the vagina. These tears may be unilateral, bilateral or stellate (multiple), and they vary in the amount of gaping. In all but recent lacerations an area of hard cicatricial tissue is found under and around the edges of the torn surface. This cicatrix is inelastic and acts as a foreign body in the cervix, causing many of the symptoms of which the patient complains. It is deposited there by the efforts of the natural reparative processes of the system to heal the injury. The complete removal of this tissue is the key to the successful treatment of these cases. Restoration of the out-

line of the cervix is a secondary matter in the relief of the symptoms. The pains in the pelvis (when not ovarian) are almost always due to this mass in the cervix. The so-called "nervous symptoms" will disappear on its removal. Dysmenorrhea is another symptom that can frequently be traced to this cause, though it must be distinguished from painful menstruation due to other causes.

The presence of a zone of scar-tissue in the cervix is an added danger to its integrity during childbirth, as this portion of the cervix will not yield before the presenting part, and the dilation is thus restricted and a deep tear is liable to occur. One case in my experience required to be cut at the time of delivery to allow the child's head to come out of the uterus.

Since that time I have always treated pregnant women for the cure of this condition even if they were well advanced in pregnancy when the condition of the cervix was discovered, and I have seen only good results from such treatment. There is no reason why there should be any danger from local treatment at this time; in fact, many pregnant women are benefited by having applications made to the cervix and the vagina cleansed and supported by a small tampon. Women treated during their period of gestation have an easier time at confinement than they had at previous deliveries not preceded by treatment.

Several drugs are known to possess the power of promoting the absorption and removal of cicatricial tissue underlying mucous membranes, when locally applied, but Monsel's solution has been most satisfactory in my experience. In all cases not complicated by erosion of the cervix the method is quite simple. When subinvolution or other complication is present some modification of the treatment is called for. It is always well to remember that the genital organs are all interdependent and must be treated as parts of a system, and not as isolated tissues.

It is usual to treat these cases with the patient in the dorsal position, using a bivalve speculum; but if more convenient for light, etc., she may be treated lying on her side with a Sims's or a Cleveland's self-retaining speculum. The cervix must be in plain view in a good light, as its condition should be inspected before each application is made. Any discharges are first removed from the vagina and cervix with clean absorbent cotton, and the canal is then mopped out with fresh cotton which has been saturated with tincture of green soap. After the soap and water have been removed with dry cotton it is advisable to apply some pure alcohol to insure a perfectly clean surface before the remedial agent is introduced. If there is a thick tenacious plug in the cervical canal it can be removed by wrapping a uterine applicator with a small layer of cotton, dipping it lightly in some carbolic acid, and gently introducing it up to the internal os. It should not go beyond this point.

After the entire surface of mucous membrane has been made clean, Monsel's solution is liberally applied to the cervix and the surrounding vault of the vagina. There is more danger of using too little than too much of the iron solution. The parts immediately over the scar tissue must be flooded with it if a cure is to be effected. If some of the solution is left in the vagina it is better, as the tampon will hold it in place.

The tampon should be large enough to fill the upper part of the vagina and prevent any leaking of the medicine left there. It must not be wrapped too tight and should have a thread looped around it by which the patient can withdraw it the evening following treatment. Before the tampon is put in place it is dipped in glycerin so that one end of it is well saturated with the liquid. If an astringent is indicated some alum and boric acid can be dissolved in the glycerin.

The tampon is an important factor in the treatment of these cases. It holds the medicine in contact with the mucous membrane, thus securing a prolonged application; it acts as a support when such use is indicated, and it retains the discharge within the vagina until the patient reaches her home. When inflammation or old adhesions resulting from former inflammation are present the action of the glycerin by depleting these thickened tissues will be of much benefit. This action will cause a copious watery discharge, lasting while she is wearing the tampon. Frequently a skin-like cast of the vagina will be expelled either with the cotton when it is taken out or a day or two after. This should cause no alarm. No douches should be taken until the tampon is removed.

Advanced stages of lacerated cervix are usually complicated with other disease processes resulting therefrom. The most common of these is caused by a destruction of the mucous membrane of the cervix. This destruction may involve only the outer layers of the mucous membrane, or it may be through the entire depth of the membrane. The most common cause of this destructive process is the presence of irritating discharges, either from within the uterus or resulting from disease in the vagina itself. This is the condition frequently mentioned in the text-books as ulceration, but only in its later stages is there any true ulcerative process present.

When the mucous membrane is broken or eroded as has just been described, it is advisable to apply some remedy to aid the healing and restoration of the destroyed membrane. The cleansing action of frequent douching will do something towards bringing about this result, but it can be aided much more by drugs. The best remedy for healing these erosions is a combination of pure tincture of iodine and beechwood creosote. They are mixed in equal parts of each. Churchill's tincture has generally been recommended for this purpose but it is not nearly so efficient as the tincture of iodine with creosote. The denuded surface is bathed in the mixture before applying Monsel's solution for its action on the deeper

structures. In other respects the treatment is the same. In cases where there is no cicatricial hardening the iron is omitted.

The frequency of these applications must be carefully considered. The astringent action of the solution of the subsulphate of iron will be found quite evident to the examining finger as late as the fourth day after the treatment is made, and there is little profit in making applications oftener than once in five days. If the patient is very sensitive, once each week will be found best for her. The treatment is suspended about three days before her expected menstruation and is not resumed until the fourth day after the flow has ceased. In very bad cases, especially if the patient is weak and run down, it is wiser to make the visits every five days and to apply the iron at every alternate visit, using only the iodine and creosote at the others. If the parts become irritated the condition will be relieved by leaving out Monsel's solution for a few treatments, resuming it when the tenderness has passed.

Under these conditions patience on the part of both patient and physician are most important factors in effecting a cure. Without it many failures will be recorded, but perseverance will be rewarded by many cures. Of course the degree of successful treatment will depend largely on the judgment of the physician in selecting the proper remedies to apply, as well as upon his skill and dexterity in applying them.

The following history will illustrate the character of the symptoms, and to some extent the plan of treatment employed:

Mrs. A. S., aged thirty-three years, married 13 years, has had four children and two miscarriages, the last miscarriage being two and a half years ago. She began to suffer four years ago, since which time the symptoms have gradually become worse. She now complains of severe and almost constant backache, pains in the left inguinal region, and leucorrhea. She has lost flesh, feels tired, and is very nervous. On inquiry constipation is also found to be a symptom. Examination of the pelvis revealed an extensive bilateral laceration in the cervix, deeper on the left side, where it reached to the point of contact with the vault of the vagina on that side. A hard mass of cicatricial thickening could be felt underlying the base of this tear. A similar mass of smaller extent was present on the right side. The cervix was large, congested, and suspicious in appearance, the uterus enlarged, slightly anteflexed, and a little inflammatory thickening was present to the left, in the peri-uterine tissue. No evidence of disease of the ovaries or tubes was apparent.

Applications of the tincture of iodine and creosote were made to the entire cervix and the surface immediately over the hard tissue was well covered with Monsel's solution in full strength and a large cotton tampon, saturated with boroglycerin, was applied to the cervix in such a way as to retain all the medicine in the upper part of the vagina. These applications were made every five days except during the time she was menstruating. After a few treatments it was found that the iron was causing a little irritation and thereafter it was used only at each alternate visit. The tampon was ordered to be removed in the evening of the day following the visit and a douche of two quarts of hot water containing a tablespoonful of salt was used every morning and evening. The bowels were regulated by a tablet containing cascara, aloin, nux vomica, and belladonna, which was taken on retiring.

She came regularly for more than six months, and was much improved. In consequence of the improvement, and because she lived out of town and found the trips a burden, she ceased to come before being told that she was well enough to stop the treatment. After an absence of several weeks she returned and said she had noticed a slight recurrence of the backache the day before and was frightened. She remarked that before beginning treatment she had backache so much of the time that she had almost concluded she would always have it, but that after a few months of treatment her backaches had all gone away, and the slight attack of the day before had caused her to return at once to complete her cure.

Her condition at this time is noted. She has gained five pounds, is no longer nervous, and rarely has any pain in the back. She needs only an occasional tablet for her bowels.

The examination report shows a slightly anteflexed uterus of normal size, with the cervix a trifle enlarged and of normal consistency. There is no evidence of the tear on the right side of the cervix, and the left has healed to half its depth and is smooth and soft. The resistant masses that were formerly found under each laceration cannot now be detected at all.

Treatment was continued for a month or six weeks longer, and there has since been no return of any of the symptoms.

This case is a typical one, and equally good results are the rule when the treatment is continued until all the symptoms are removed and no scars are left in the cervix.

The next condensed report will show the improvement that resulted from local applications to the cervix during pregnancy. Only the salient points of the history are given:

Mrs. G. was first examined during the delivery of her third child. The cervix was then found hard and ragged from tears, evidently the result of former confinements. The labor was slow and delivery was finally completed with the aid of forceps. After she was up she was advised to have treatment for the cervix, but the advice was not taken. About a year later she was seen and found to be in labor again, and a six-months' fetus was delivered. She was very ill at this time and became despondent, dreading a future conception. As a result of considerable urging she was treated a few times, but not long enough to make much progress before she again remained away. After some months she came to the office in great distress of mind. She felt that she was again pregnant. Examination showed her sus-

picion to be well founded. She was about three months pregnant. She was very unhappy, remembering her former difficulties. To add to her distress, she developed a most intractable vomiting. This was not only a morning sickness, but she could scarcely keep anything on her stomach at any time. Drugs given internally had almost no effect. She was finally induced to begin a regular course of local treatment, and came faithfully for about two months. There was no nausea while she wore her tampon, from the first time it was introduced, and improvement of all her symptoms followed the treatment. The cervix became softer and less congested. She carried her child to full term and was delivered without interference, about ten hours from the onset of the labor pains.

This case was the first to be treated in pregnancy, and since then numerous others have been benefited by the same method. I have repeatedly advised similar treatment in cases seen in consultation, and good results have always been reported when the advice was taken.

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THE INFLUENCE AND VALUE OF ORGANIZATION.*

BY GEORGE W. MILES, A.M., M.D.,
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IN the few moments allotted on this occasion to the subject of the influence and value of organization only remarks of a very general character are possible. It is hoped that the application will be evident to this child of our own born to-day, this new body among the many organizations of skilled labor.

The principle of organization is a legal right, a natural right, a moral right. It is inherent in man and in society, and is nearly as old as the human race. It is a valuable principle. It is fundamental in our nature, and when applied to mental effort, to intellectual and scientific work, this principle becomes an important educational factor in human advancement. The organization of bodies of men engaged in like occupations is very old. The systematic union of individuals in a body whose officers, agents and members work together for a common end was known in very ancient times. Historically we have knowledge of consolidations and associations of men for mutual protection and interest, especially in England, for about three centuries. Some students have held that the craft-guilds of ancient and medieval associations were also genuine predecessors of our modern organizations for mutual profit, benefit and instruction. The old and medieval guilds, as well as those of the seventeenth and eighteenth centuries, were more strictly commercial in their nature. They nevertheless fostered skill and did an immense work in the development of industry. Primarily, then as now, it was the individuality of interests as represented by the union of those engaged in the same line of work which led up by a perfectly natural growth, to the present widespread consolidation of working interests of a like nature in special organizations.

The writer believes heartily in the right of organization, in the value of organization, in the benefits derived from organization along all lines of labor. Organization means discipline. It also means power, if only the mistakes which have impeded true progress in the past be guarded against and the highest ideals be lived up to. There is, however, nothing in any organization of itself inherently sacred or beneficial. The organization is simply an outward expression of the spirit of cooperation between individuals. Its benefits will depend entirely on the ideals and methods which the individual shall adopt. If standards are correct, if ideals are high, if methods are right, the organization may become useful to humanity, valuable in itself and to itself, and helpful and strengthening to its individual members.

If an organization is to become a strong, wholesome working force the individuals constituting its membership must be men of broad views and sound character. Aims and methods must not be narrow or selfish. The endeavor should be to raise the average level, which will result in an effectual guardianship of the association's real interests. In general, organization must consist in bringing into systematic connection and cooperation all elements as parts of a whole, and bringing the various parts into effective correlation and participation. Specifically, all members should be joined in reciprocal and correlative relations and duties. The thirst for leadership and the unseemly ambition of the office-seeker must be under control in any successful organization for intellectual work. Political manipulations tending towards leadership should ever be frowned upon, if the greatest good is to be accomplished. More than one association of brilliant scholars has gone to ruin, a prey to the office-seeking spirit on the part of members. Jealousy and intrigue for honors and office are not found in that organization which grows and strengthens with the years. In an association such as is founded here to-day, it is earnest scientific work and work alone which will breed higher and higher aspirations and thus disclose, as time goes on, the true value and benefit of organization. The tendency of those industrial unions of our own day in which sound morals prevail is towards the elevation of the wage-scale. So too, in that scientific body where fair methods and hard work are the watchwords, the tendency is to raise the standard of general intellectual effort and thus benefit all mankind. To increase the number of such organizations for concerted study and mental work, and to add to their membership and strength, every proper encouragement should be offered.

It has been quite truthfully observed that the average man, no matter what his calling, needs a strong incentive in order to yield anything like a maximum output of work. The slightest relaxa-

* Read at the first annual meeting of the United States Pension Examining Surgeons at Saratoga Springs, N. Y., June 9, 1902.

tion of that incentive has a marked effect on the amount. The apathy of the average worker to all progression is owing to his inability to see the necessity for any advance. The necessity for a motive for work is just as great, if not greater, in the case of the scientific or intellectual as in that of the industrial laborer. Organization furnishes such a motive, incentive and spur to work; there is an arousing of intelligence and dormant faculties, a reawakening to the responsibility of industry through the keenness of competition. Thus through the effect of organization upon individuals, and by reason of harmonious effort in apportioned work, results have been achieved which are of extreme usefulness to the intellectual industry of to-day and will be invaluable to that of the future.

The immense power of organized effort aids the individual worker and conduces to his real and lasting benefit in the shape of a deepened interest and a broadened outlook. It is educational in the highest degree, and its greatest good is that it awakens and sustains his interest in his life-work and lends a healthy and vitalizing power to labors which otherwise sometimes become quite aimless. While self-help is undoubtedly always the best help, it is no less true that organized effort of craftsmen in a common field of industry tends to overcome all opposition, to produce a spirit of self-reliance, a recognition of personal rights, and a due consideration of the rights of others, all which are of the greatest value. The chief factor in the success of every man, in every field of intellectual labor, must always be his own individual qualities and abilities, but the very greatest aid will also always be found in the power of acting in combination or association with others. Organization is directed to the survival of the fittest and to the fitting of as many as possible to survive.

I can in no other way so well bring these remarks to a close as by repeating from a recent state paper the words of Hon. Theodore Roosevelt, President of the United States: "When all is said and done the rule of brotherhood remains as the indispensable prerequisite to success in the affairs of our life. True, each man must work for himself, and unless he so works no outside aid can avail him, but each man must remember also that he is indeed his brother's keeper and that we can all best help ourselves by joining together in the work that is of common interest to us all."

URIC ACID IN THE BLOOD AND TISSUES AS A CAUSE FOR CERTAIN STOMACH AND INTESTINAL TROUBLES.

BY FREEMAN F. WARD, M.D.,
OF NEW YORK.

IT is not my purpose to go into the etiology and theory of the origin and production of uric acid in the system, nor to take up the subject of this substance as a causative factor of gout and rheumatism, in an exhaustive way. Far abler men than I have written volumes on this subject, and still disagree, but I do wish to call especial attention to a certain class of cases which I believe to be dependent upon the presence of uric acid in the blood and tissues as a cause.

In many cases of disturbance of the digestive organs I have good reason to believe that we have to deal with this condition. Cases present themselves with the clinical picture of attacks of pain, often cramp-like in character, in the stomach or bowels, with no marked abnormal changes in the gastric juice, but the patients having a distinctly uric-acid diathesis, and more or less of this substance excreted in the urine. I believe that many cases of so-called gastric neuralgia have this condition as the underlying cause. In other words, they are cases of rheumatisms or gout of the stomach or intestines.

All physicians are familiar with the danger of so-called retrocedent gout, or gout of the intestines, in acute attacks of this disease, and of sometimes producing this condition by too active treatment during acute attacks. We are also familiar with the cases of rheumatism which become worse in the first days of treatment before improvement begins. These are all due, I believe, to one and the same cause; namely, that the tissues themselves are stored with uric-acid xanthins or whatever other toxic substances cause the disease, and the medicine acting as a solvent drives it into the blood, producing an excess there and aggravating the symptoms until the excretory organs can carry it off.

Not seldom have I had cases in which, finding considerable uric acid in the urine, I have put the patients on appropriate treatment, with the result, at first, of bringing out rheumatic pains and cramps in the stomach and intestines with extreme tenderness, all of which symptoms would disappear in a few days without any change in the treatment.

It is my desire in writing this article not only to bring to notice, in particular, the class of cases referred to, but in speaking of the treatment I wish to include in a broad and general way all conditions which are dependent as a causative factor upon an excess of uric acid in the blood and tissues, or a tendency to produce it in the organism. There is no necessity of more than referring to the old and well-known drugs, such as the iodides, colchicum, oil of wintergreen, sodium salicylate and their derivatives, some of which are put up in very convenient and palatable forms, and which in many cases are very efficient. Furthermore, in the special class of cases I have referred to, we must have something non-irritant to the stomach. As I said before, I do not wish to enter into a discussion of the theories of the origin or production of uric acid in the system, nor whether it is the real cause of *all* cases of gout or rheumatism. But a few things, I think, we may say, we do know.

1. That some toxic substance or other, circulating in the blood, through some faulty metabolism, is the cause of many of these cases, and also of numerous other affections and changes in the vital organs, without giving us physical signs. Within

the limits of my private practice I have seen two cases at autopsy, where, during life and even a very short time before death, the heart gave no signs of disease, but the autopsy disclosed occlusion of many of the tubules of the kidney with uric acid crystals. The chief cause of death, however, was complete occlusion of the posterior coronary artery of the heart with more or less fatty degeneration of the heart muscle.

2. That we find individuals (and in no small numbers) who have a tendency to an excess of uric acid, exhibiting its effects by widely different manifestations; in some, as anemia or headaches; in others, as frequent sore throat without other cause; in others still, as gout or as muscular rheumatism, and again simply by a feeling of general congestion and heaviness, soreness of eyeballs, cold feet and hands, which indicates to my mind occlusion or congestion of the capillary circulation.

No matter what theory we accept as to the origin of this acid, whether in the liver, or in the kidneys, or through faulty metabolism, we find the occular evidence of it as crystals in the urine, as well as in the blood itself. I myself believe that a part of the acid, if not all, is due to lack of proper changes in the food-stuff as it passes through the cells during absorption, for we know that assimilation is a vastly more complicated process than simple absorption of the chyme, after it has passed through gastric and intestinal digestion, and that extensive, complicated and minute changes occur by the action of the cells themselves on the food-stuff as it is being absorbed.

We all know, too, what unsatisfactory results we obtain in many cases by simply cutting off from the diet those foods containing uric acid. Although it is quite a proper measure, there are many cases in which restricted dieting would be injurious, when the patients must be fed, even allowing many articles of food which would be theoretically excluded. Now, how are we to eliminate the uric acid from the system, prevent its production, and contribute generally to the well-being of the patient?

First, I will speak of but one drug, not as a specific be it understood, nor to the detriment of older and well-known remedies, which I still value very highly; but I speak of this one because of extensive experiments which I have made with it, and because it is, perhaps, not well known among our own physicians.

Secondly, I wish to lay more stress upon hydrotherapeutics or the so-called "Spa Treatment" in these cases, especially during the summer months, believing that we have much to learn yet in this respect from our German colleagues; the more the pity, too, because we have, in this country, resources in mineral waters unequaled in the world, which only need to be studied, developed and used by our own physicians to create at our most valuable springs such an atmosphere of their utility and usefulness as exists at similar places abroad.

The drug which I refer to is called sidonal, a synthetical compound of quinic acid and piperazin. It came to my notice, almost by accident, two years ago while in Berlin, through an artist whom I met there, and in such a way as to create more than a passing impression. At my own request the manufacturers placed at my disposal, through their New York agents, a sufficient quantity of the drug to make extensive trials and experiments. I used about 50 ounces of this drug, and prescribed probably about as much more; and I give, appended, a few of the cases selected to show in which class of cases it worked best, and also to demonstrate the instances in which it is of no avail, for this is a drug for the well-to-do, and must not be prescribed recklessly, the expense being its only drawback.

Case I.—Mrs. H., aged forty years; distinctly uric-acid diathesis, with excessive amount of this substance found in the urine, and hyperacidity of the stomach. Attacks of extreme dizziness, nausea, and a great deal of malaise, simulating chronic malaria. At first 15-grain doses of sidonal were prescribed with one-half glass of water from one to two hours after meals. The effects were marked from the first—disappearance of uric acid in the urine; general sense of well-being, and relief of the feeling of congestion.

Case II.—Mrs. P., aged forty-three years; symptoms very similar to above, with obstinate constipation. The 15-grain doses of sidonal caused disappearance of uric acid in the urine and general improvement in the patient, followed by regularity of the bowels. This patient keeps sidonal always at hand.

Case III.—Mr. T., aged twenty-five years; marked uric-acid diathesis with burning irritation of the bladder and burning irritation in voiding urine; pains in the calves. Four days' administration of sidonal was followed by complete disappearance of all unfavorable symptoms and general improvement in the feeling of the patient.

Case IV.—Mr. T., aged forty-eight years; subject to severe attacks of lumbago and general muscular pain; following these attacks an access of uric acid was always found in the urine. Administration of sidonal in 15-grain doses three times a day, gave relief in 24 hours and caused disappearance of the uric acid.

Many more cases could be cited identical with these. I would only add that in none of these cases did the symptoms return, or did uric acid reappear after the cessation of the drug, until the patients had transgressed in diet, or committed some error in hygiene to bring on another attack.

On the other hand I will now mention:

Case I.—Miss B., aged twenty-eight years; symptoms headache, occasional attacks of dizziness; no uric acid of appreciable amount found in the urine. Sidonal in 10-grain doses during attacks gave no results whatever.

Case II.—Miss M., aged fifty years; severe attacks of migraine and neuralgic pains in different parts of the body. Repeated examinations of the

urine showed no appreciable amount, at any time, of uric acid. Administration of sidonal during attacks gave no results.

Case III.—Mrs. C., aged forty-eight years; almost constant neuralgic pain in left arm and shoulder, increased by using sidonal. No uric acid in urine after repeated examinations.

Sidonal in 10-grain doses gave no result whatever, but did not disturb digestion.

I could go on and quote numbers of cases in both classes, with similar results in all. These will suffice to show the action of the drug, which I wish to bring out, and the class of cases in which it is indicated and contraindicated.

Now it will be seen that in those cases where there was an excess of uric acid in the urine, or a tendency to produce it, this drug worked in an ideal way, but in the other cases, where very little or no uric acid was found, after repeated trials, the drug was of no avail, although it did no harm. In some cases its effects were so astonishing that I thought it must act by inhibiting the excretion, and that when the drug was stopped the symptoms would return, but the examinations following cessation of the drug showed no reappearance of the uric acid, nor was the patient's sense of well-being diminished.

How does it act? I am frank to say that I do not know, but my theory, deduced from observation and study of its action, is that it stimulates the cell-protoplasm to do its normal work, whether it be in the liver, kidneys or intestines, and causes a more complete oxidation and assimilation of the foodstuffs, thus avoiding the necessity of subjecting the patient to so strict a diet.

I am still using this drug with great satisfaction in well-selected cases, and trust that other members of the profession will make further experiments and report some of their results. I may say that almost without exception the patients have found it non-irritating to the stomach and rather pleasant to take. The powder should be dissolved in half a glass of water and given after meals.

Now as to the importance of the natural method of treatment by mineral waters, not only of gout and rheumatism, but of all those conditions dependent upon uric acid, including the cases specially referred to, so far as practicable, directly at the springs. No one doubts the efficacy of the so-called "Spa Treatment" in well-selected cases of *chronic* disease, for I believe it is generally conceded that mineral-water treatment is contraindicated in acute troubles. We are coming to realize more and more that it is quite unnecessary to send our patients abroad for such therapeutic measures; that we have in this country not only just as good waters as they have in Europe, but in as large or even larger variety. It is quite natural, when the hydrotherapeutic measures seem indicated with any of our patients, to think first of sending them to the Old World, where for generations more attention has been given to this natural method of treatment. For scarcely anyone in Europe suffering from chronic disease or abnormal condition, who can possibly afford it, fails to take a course of treatment at some spa every year. I do not wish to disparage or criticize the giving of such advice to patients, for the ocean-voyage, the getting so far away from business, with the complete change of scene, are in many cases beneficial; but there are many to whom the sea-voyage is a bugbear, and who suffer more harm by it than can be offset by the treatment which they receive while there. Many, too, cannot afford the expense, or cannot be so far or so long away from business or from home. For such to go abroad is not *necessary*, for we have the same means in abundance at many springs in this country, since there is scarcely a State in the Union which does not possess some spring or springs of real medicinal value.

It is to be regretted that the same facilities for treatment are not provided at some of our most valuable spas as exist in the Old World, but there are many where this does obtain, and the number is increasing. One great drawback to such treatment in this country has been laxity on the part of physicians themselves in making a study of hydrotherapeutics, the testing of the waters of our own springs and the using of them in their practice at home, thus determining to which spring it is best to send each individual patient, for it is just as necessary and important to select a suitable mineral water for a patient, as it is to prescribe the proper drug, and often requires more care. Another element which has worked to the detriment of this course of treatment is the reckless advertising of the owners of springs, their special water being vaunted as a cure-all for every malady under the sun. This naturally antagonizes the physician, just as the owner of some proprietary nostrum does when he advertises his special preparation as a cure for all diseases that human flesh is heir to.

Mineral waters should be prescribed and used intelligently and with the same care that is exercised in the selection of our drugs. In many cases actual harm is done to the system by drinking immoderately of the wrong water, and in many other cases, while no actual harm is done, the benefit is not derived which might be obtained by having the proper water prescribed on a scientific basis. It would occupy too much time and space to go in detail into the subject of the different waters at our disposal in this country, or to attempt to enumerate the indications for the use of each special one; but it is sufficient to emphasize the fact that from Maine to California we have these waters at our disposal, and available for almost any condition.

A few of the most valuable and most utilized may be mentioned, as the Hot Springs of Virginia, Saratoga, Richfield, Sharon and Avon Springs in New York; Bedford Springs, Pa.; Crab-Orchard and Harrodsburg Springs, Ky. The Vichy Springs in Alamoden, Cal., and the Alma-Bromo and Almarian Springs of Alma, Michigan.

Of all these the springs probably offering the greatest wealth of mineral waters in the way of variety and strength, suitable to the greatest variety of cases, are those at Saratoga. It is strange that at this spa where we have the greatest wealth of waters and greatest accessibility for large centers of population we find least inclination to utilize them.

It cannot be too strongly emphasized that systematic mineral-water treatment should be recommended only after careful chemical and physical examination.

As a matter of fact there are very many cases in which the drinking of mineral waters is contraindicated, as in cardiac disease, dilated stomach, pyloric obstruction, etc. Two deaths have been reported as occurring at Saratoga, where unfavorable results were undoubtedly due to unwise or unadvised use of the waters.

It should be said that besides the waters there are many other factors offered at Saratoga which, properly used, will contribute to the end in view.

There is as completely equipped a bath-house as one can find at any spa in the world, besides several smaller ones, where a patient can obtain any kind of bath prescribed by his physician, plain or mineral water, Turkish or Russian, and Swedish movements if required, and including the celebrated Nauheim bath, which can be given here as well, and with as good results, as in Nauheim, Germany.

Also to be mentioned is the beautiful surrounding country, with its broad expanse of view and the mountains in the distance, its beautiful drives, walks, bicycle paths, and one of the most picturesque golf-courses and tennis-courts in the country.

All these things contribute to the pleasure and diversion of those visiting this place for health and recreation, even though they may not themselves take active part in the sports. Then the atmosphere is delightfully bracing, pure and clean, and although in the heated term the weather may be warm during the middle of the day, there is always abundant shade if one needs to go out, and the nights are almost invariably cool.

The main drawback to a successful course of treatment at Saratoga Springs is the lack of facilities in the best hotels for the proper diet of patients, and herein lies the great superiority of the European spas over our own. But no doubt when the demand seems to justify it the hotels will establish diet-kitchens and offer facilities to the guests who are visiting Saratoga for the benefit of their health, so that the régime prescribed by the physician may be more easily followed.

6 East Fifty-eighth Street.

The Passage of the Tubercle Bacillus Into the Chyle and Thoracic Duct.—In experiments on the guinea-pig performed by J. NICOLAS and A. DESCOS (Jour. Phys. et Pathol. gen., Sept. 15, 1902) it was discovered that three hours after the ingestion of tubercle bacilli, the chyle and lymph of the thoracic duct can contain the bacilli in a number sufficient to impart tuberculosis to the animal.

GUNSHOT WOUNDS OF THE CHEST AND ABDOMEN FROM A MILITARY STANDPOINT.*

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ALL gunshot wounds have to be specially considered when they occur in military or civil practice. This is largely due to difference in size, composition, and velocity of the projectiles; to environment; transport; morale. The last three differences have remained invariable from the beginning, while the first, relating to differences in the projectiles, has varied with progress in the manufacture of firearms.

In olden times, when the hand-weapons, including the pistol and rifle, all carried a very large ball, the character of the wound inflicted varied but little. Later as the caliber of the pistol was reduced the wound which it inflicted commenced to differ markedly from that inflicted by the large rifle-ball. In recent times the sectional area of the rifle-ball also has been reduced to a point which is, generally speaking, less than that of the pistol in ordinary use. From this one might gather that wounds from the modern rifle should be attended with limited destructive effects corresponding to the reduction in caliber. This is true only of the soft parts, and of those tissues, like the lung and joint-ends of bone, which offer only a minimum amount of resistance. Again, the range, or—what is equal to the expression—the velocity of the bullet on impact determines a great deal in estimating the destructive effects of gunshot wounds. The velocity of pistol-balls, from which the wounds in civil practice mostly occur, is generally low, while the velocity of the modern military rifle-bullet is very high. The extent of destruction in gunshot injuries is determined by the velocity and sectional area of the missile and the amount of resistance encountered at the point of impact. The greatest resistance in tissue-wounds comes from (1) compact bone, like that encountered in the shaft of the long bones, and (2) water.

In so far as the difference in lesion and prognosis is concerned I desire to show that from a military standpoint the character of the wounds of the thorax and abdomen are largely influenced by the resistance encountered in the tissues traversed, as well as by the amount of velocity of the small steel-jacketed bullet on impact.

Thorax.—The fact that the viscera in the thorax often escape injury by the modern rifle-bullet has been commented on by nearly all the observers. These cases of unexpected recovery can only be explained upon the ground that structures like the heart and great vessels and the esophagus are held by loose cellular tissue which permits displacement at the moment of impact. The change in position is more apt to occur when the remaining velocity of the bullet is low. On the other hand, high velocity, as one

*This paper was to have been read by the author, but, owing to his unavoidable absence, under the rules of the Association it was treated as a volunteer paper.

finds in the military rifle, favors injury to everything in the line of flight of the missile. There is no time for displacement. The soft tissues are cut as with a knife. In the case of the heart we may infer that its variability in bulk from systole to diastole explains some of the phenomenal escapes from death. Surgeons in recent wars have repeatedly observed recoveries from wounds in the heart-area that could hardly be explained on other grounds. There is nothing about the heart-muscle and pericardium to offer resistance enough to show explosive lesions, and it may be surmised that wounds of the heart-muscle and pericardium ending in recovery are apt to occur more often from the present service-bullet than they did from the old. On the other hand, shots through the heart that invade the cavities at close range are apt to be attended with great destruction from the amount of resistance of its fluid contents and the superior velocity of the bullet at the time of impact. The following cases illustrate in a measure some of the unexpected recoveries one is apt to observe from wounds of the thorax by the steel-clad bullet.

Case I.—A. F., late Co. C, Twenty-first Infantry, was wounded in battle of Calamba, P. I., July 30, 1899, by a Mauser bullet at a distance of 250 yards. The bullet entered the right chest in upper areola around nipple over intercostal space. Wound of entrance a small circular scar ⅓ cm. in diameter. The bullet passed down and emerged from back three cm. to left of second lumbar spine by an oval scar, 1½+¾ cm. Left leg was totally paralyzed immediately after injury. There was a slight hemoptysis two days later. Wound healed rapidly without suppuration. For six months back was very weak and stiff and the patient was confined to his bed on that account. For last two months he has been up and about on crutches. Sensation returned in left leg two months after injury, and power in leg began to return one month later. Remote effects: Left leg is partially paralyzed and weak. Impaired sensation over leg. Unable to bear weight upon leg on account of special weakness of quadriceps extensor. Pain in big toe and shooting through leg.

Case II.—T. F. McC., late Co. I, Ninth Infantry, was wounded in battle of Porac, P. I., Sept. 28, 1899. The ball, supposed to have been a Remington, caliber .45, fired from a distance of 100 yards, entered in suprasternal notch, passed through trachea and esophagus, lodging in unknown position. Unconscious for one hour after being wounded. Hemoptysis, very profuse at first, lasted until December, 1899. Unable to take any food or liquids by mouth for six weeks after injury on account of perforation of trachea and esophagus. Was supported by nutritive enemata during this period. Orthopnea for about two months, and dyspnea since then on exertion. Pain at times in right chest and back. Radiograph taken March, 1901, shows the ball lying at junction of third and fourth dorsal vertebræ and just to the right of the median line, apparently resting on the vertebra. Remote effects: Dyspnea on exertion; pain in chest and back; difficult deglutition, the food often appearing to lodge at site of wound. Tracheal tug present, but no other signs of aneurism accompany it, and it is probably due to adhesions formed along the course of the bullet.

It is in wounds of the lungs especially that one observes the humane characters of the modern bullet, which are wholly explained by the factors already mentioned; namely, sectional area and resistance. An undeformed bullet of .30 caliber makes a wound about the size of a lead pencil, and since the resistance encountered in the lung is practically *nil*, the destructive effects are very slight. Wounds of the lungs under these circumstances almost invariably recover except in those instances where the missile cuts through one of the larger vessels.

The loss of life in battle from penetrating gunshot wounds of the chest, inflicted by bullets of the larger calibers, has been very great, varying between 62.5 per cent. in our Civil War and 91.6 per cent. among the French troops in the Crimea. When we consider the subsequent mortality from secondary involvements like pneumonia, pleuritis, phthisis, etc., the mortality in the end is hardly less than that recorded from penetrating wounds of the head and spine. Of 198 cases of penetrating gunshot wounds of the chest (reported by the Surgeon-General of our army) which occurred during the years 1898 and 1899 in Cuba, Porto Rico, the Philippines, etc., 55 (27 per cent.) ended fatally. As to the results in South Africa, where the experience of the medical department was much larger, Makin states that "wounds of the chest furnished the most hopeful class of the whole series of trunk or visceral injuries. Cases of wounds of the heart and great vessels afforded the only exceptions to an almost universally favorable course, both as regards life and the non-occurrence of serious after-effects." Notwithstanding the favorable outcome of chest-wounds, as inflicted by the new armament, it should be borne in mind that the clinical history of cases in military practice is especially apt to be accompanied by complications like hemothorax and pyothorax. The apparently trivial nature of the wound, in the majority of those who lived to reach the field-hospitals, was exemplified at the Reserve Divisional Hospital at Siboney in men who, though shot through and through a few days before, could be kept prone in bed only by the most watchful care. Doubtless a number of the sequelæ observed afterwards in these men* were due to imprudence on the part of the patients in disregarding the instructions to keep quiet. Bearing upon military practice, it may be stated that Makin observed in South Africa, in the early part of the campaign when the patients were treated near the place of battle, and required but little subsequent transportation, that hemothorax occurred only in probably 30 per cent. of cases. Later on, when it became necessary to

* Greenleaf, "Gunshot Wounds of the Lungs."

transport the wounded for much greater distances—requiring in some instances journeys of two or even three days—at least 90 per cent. of these patients "suffered with hemothorax of varying degrees of severity." In referring to the only case of empyema seen by him during the whole campaign, he informs us that it followed the removal of a lodged bullet, and that the additional wound doubtless proved the source of infection because of the difficulty of maintaining asepsis in wounds treated under such questionable surroundings as one encounters in the field. The moral which he draws from the circumstance is one that accords with our own experience: "Remove no lodged missiles in the field save for exceptionally good reasons."

Abdomen.—Penetrating gunshot wounds of the abdomen, under the expectant plan of treatment, were the most fatal of the regional wounds in both military and civil practice; the mortality ranging between 95 and 99 per cent. Under a wise selection of cases and the employment of expert technic in operating, the statistics of fatality have been reduced by nearly one-half in civil hospitals, while on account of unavoidable causes the death-rate in military practice in the field still remains very high. In civil hospitals, where one finds all the modern conveniences and comforts to promote the well-being of the wounded, and where the surgeon, almost from the moment of the receipt of the injury, holds absolute sway over his surroundings, the mortality, as shown by Grant's statistics of operative cases, amounts to 52.5 per cent. in a series of 253 cases. Morton of Philadelphia reports 138 deaths after operation, or a mortality of 58.9 per cent., out of 234 cases collected from various sources in this country and Europe. Coley's statistics show a death-rate of 53.8 per cent. in a series of 39 cases operated upon during the first 12 hours after injury; and a mortality of 77.2 per cent. in 22 cases operated upon at a later period. In military practice in the conditions that obtain in active campaign, the mortality, as already stated, has been very large, the death-rate in the Crimea for the French and English troops being respectively 91.7 per cent. and 92.6 per cent. In our Civil War the fatality reached 90 per cent. When we remember that in many of those who are thus reported to have recovered the abdomen was in reality not perforated, we are forced to the conclusion that the high mortality given would probably have to be made still higher if it had been possible to consider only perforated cases.

The encouraging results obtained in civil hospitals gave the military surgeon hope that his results might be nearly as good. This hope, as the sequel shows, was not realized. Of 116 cases reported in the Annual Report of the Surgeon-General of the Army for 1900—cases which occurred in the Spanish-American war and during the Philippine insurrection—there were 81 deaths, or a mortality of 70 per cent. The evidence of perforation was doubtless based upon the position of the apertures and the course of the ball in a straight line between these. It is fair to state that of the 30 per cent. who recovered the large majority sustained no injury to the intestine. The experiences of Makin in South Africa lead him to the belief that perforating wounds of the small intestine are very fatal—"every patient in whom the condition was certainly diagnosed died." The following table includes only those cases which survived longer than 24 hours, upon six of whom he operated. It will be seen that the prognosis varies largely with the anatomical structure involved in the perforation. It should be noted that of the 10 cases of possible perforation of the small intestine there were 10 recoveries, a fact that goes to show that in all probability few if any of them were perforated cases at all; also that of the five cases of perforation of the "small intestine certain" death was the result in every instance. As far as prognosis is concerned, a gunshot wound of the small intestine, without operative interference, is as fatal to-day on the field of battle as it was during the Crimean War. Some rare cases of recovery with few symptoms, cited by Makin, make it difficult to conceive how a projectile could plough its way through the abdomen from one flank to the other without cutting the intestine. Several cases of this kind were seen at Siboney from the line near Santiago, and they

TABLE

Viscus Wounded	Number of cases	Localized secondary suppuration occurred	Recovered	Died
Stomach certain	2	–	1	1
Stomach possible	1	–	1	–
Small intestine certain	5	–	–	5
Small intestine possible	10	–	10	–
Large intestine certain	8	4	4	4
Large intestine possible	4	–	4	–
Bladder certain	3	3	1	2
Bladder possible	1	–	1	–
Liver	6	–	6	–
Kidneys	6	–	4	2
Spleen	3	–	2	1
Total	49	7	34	15

go to show that the small-caliber bullet is likely at times to traverse the intestinal area without inflicting injury of a fatal kind. Aside from the small sectional area of the bullet which would favor such an occurrence, it has been suggested that the intestinal lesion is apt to be minimized by fasting. The men before Santiago had been on scant rations for one week, and the remarkable recoveries among abdominal wounds were at the time attributed to the empty condition of the alimentary canal. We know by experimentation that the reverse condition would have been highly favorable to the infliction of extensive lesions. As already stated, resistance among the three factors which conduce to destructive effects—the other two being velocity and sectional area of the projectile—is not confined to the compact substance of bone. The most extensive explosive

effects are met in cavities filled with fluid or semifluid contents. Griffith's experiments upon dogs on the Fort Leavenworth range demonstrate that when all the conditions are favorable the intestines will show rents varying from two to eight inches in their continuity. Men on the field of battle so wounded do not live to reach the relief stations; they die where they fall, as a rule, from shock and internal hemorrhage.

In gunshot wounds of the abdomen the vital question at issue is whether or not the wound is perforating in kind. If the evidence points with reasonable clearness to a wound of the former character the treatment resolves itself into a celiotomy, either for the purpose of exploration or for remedying the injury done to the abdominal organs. Whether surgical aid of the latter kind is to be practised will largely depend on the confidence and skill of the operator and the nature of the environment. As stated before, owing to the unpropitious character of the latter, laparotomy on the field or in field hospitals in war has thus far been limited, and the results, when the practice has been carried out, have been anything but encouraging. Of the three laparotomies done at one of the advanced hospitals before Santiago, the mortality was one hundred per cent. In order to accomplish successful abdominal work in war it will be necessary to use a great deal of forethought, so that the operators may not be hampered by the endless difficulties that are apt to occur in active campaign. It is possible to conceive of a field-hospital so thoroughly equipped with material and personnel, and so favored by the condition of the weather, that in it a laparotomy may be performed with about the same safety as is experienced in a civil or fixed hospital. So far, the idea of establishing such a hospital has not been seriously acted upon. The subject is replete with possibilities.

MEDICAL TREATMENT OF CHOLELITHIASIS.*

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CHOLELITHIASIS embraces the formation and presence of biliary concretions. Its medicinal treatment is based upon the rationale of its etiology and pathology. Gall-stones are chiefly composed of cholesterin. Cholesterin is a product of retrograde metamorphosis, which is held in solution in the tissues by lecithin. Its solution in the circulating fluids of the body is maintained by the alkaline salts and the compounds of potassium and sodium with the fatty acids. (Lyman.)

So long as the bile remains alkaline the cholesterin is held in solution. If calcium be added to bile it unites with the fatty and biliary acids to form insoluble salts no longer capable of holding cholesterin in solution. An excess of organic acids in the liquids and solids of the body causes a liberation of basic calcium from the anatomical structures in which this substance is contained. Calcium thus put into circulation precipitates cholesterin from the bile.

An excess of organic acids in the system is the cause of the so-called "arthritic diathesis" or the "acid dyscrasia" described by French writers, Consequently biliary calculi are most common after the age of thirty-five years, that is, after changes dependent upon the diathesis have begun.

Females are affected three times as often as males. Naunyn states that 25 per cent. of all women have cholelithiasis, and that 90 per cent. of these have borne children. Pregnancy, menstruation, tight-lacing, sedentary habits and the increased frequency of osteomalacia among females render them more liable to the disease. Pregnancy and menstruation favor the increase of organic acids in the system. Tight-lacing causes stagnation of the bile. Sedentary habits lessen oxidation, and in osteomalacia calcium salts are put into the circulation. Cancer of the gall-bladder, typhoid fever, appendicitis, and disorders attended with intestinal sepsis are among the frequent causes of biliary calculi. Colloid material, the products of inflammation and bacteria present in the bile, not only favor chemical changes, but furnish a nucleus for the deposit of cholesterin. Recently it has been shown that the bile is so feebly antiseptic that certain bacteria may live in the gall-bladder a considerable length of time.

Gall-stones vary in number from 1,000 to 8,000, and they vary in size from a pin-head to a goose-egg. Their formation may take place in the hepatic radicals or in the gall-bladder.

Symptoms result only from irritation or obstruction by the calculi. The greatest pain is supposed to result from the spasmodic contraction of the muscular structures upon the stone as it passes through the cystic duct. The obstructing stone usually lies at the termination of the common duct within the diverticulum of Vater.

The formation of a calculus is likely to be followed by the formation of other calculi, either immediately or at subsequent periods. Thus we find that the indications for the medicinal treatment of cholelithiasis are: (1) The prevention of the formation of calculi, and (2) the control of the symptoms and the expulsion of the calculi when formed.

Prophylaxis is applicable to those predisposed, but in whom no calculi have been formed, and to those from whom calculi have been removed either by surgical or medicinal means. Prophylactic treatment of the acid dyscrasia, or the prevention of an excess of organic acids in the system; care of the menstruating and pregnant female especially after the thirty-fifth year; the removal of all things tending to produce stagnation of the bile; the use of all means to promote its fluidity and outflow; the use of agents promoting biliary and intestinal antisepsis, and the use of lecithin

* Read before the Kentucky State Medical Society, at Paducah, May 7 1902.

or other solvents of cholesterin in those from whom gall-stones have been removed.

An excess of organic acids in the system must be prevented by increasing oxidation in every way, by out-of-door exercise, bathing, massage, etc., and a diet requiring as little oxygen as possible and free from calcium salts. For this reason no red meats, tea, coffee, chocolate, tomatoes, strawberries, bananas, limestone, or carbonated water should be taken. But the lentils should especially be used, because they not only require less oxygen for their assimilation, but even carry oxygen with them. The oxygenated waters, instead of those charged with carbonic acid gas, should be used.

The salicylates promote the fluidity of the bile, and together with the terebinthina group, perhaps constitute the safest antiseptic. Probably the best antiseptic measures in the gall-bladder are those that prevent biliary stasis and promote normal gall-bladder activity. Local massage is to be especially recommended. In typhoid fever, appendicitis and other disorders attended with intestinal sepsis the terebinthina group perhaps furnishes the best prophylactic. They lessen both biliary and intestinal sepsis, besides exercising a somewhat solvent action upon biliary concretions.

The treatment of the attack embraces measures for the relief of pain, as well as those that facilitate the expulsion of gall-stones. It is estimated that less than 50 per cent. of individuals affected with gall-stones ever have clinical manifestations. Gall-stone colic is generally conceded to be due to the contraction of the muscular structure upon a calculus as it is forced into the cystic duct. So that in all instances of cholelithiasis attended with pain we are reasonably sure the offending calculus is small enough to become engaged in the duct itself. Therefore we have positive indications for medicinal treatment.

The first steps in the treatment of the attack must of course be for the control of pain. Anodynes and anesthetics have been used. Coal-tar derivatives, opium alkaloids, ether and chloroform have served. Perhaps the speediest relief with the least undesired after-effect is obtained by the hypodermatic use of heroin hydro-chloride in combination with atropine. Heroin is more analgesic and less constipating than morphine. Just as when morphine is used small doses of heroin should be frequently repeated, lest the stone pass suddenly and a narcotic rather than an analgesic effect result.

The agents assisting expulsion of the calculi may be divided into different classes. The action of one class is due to influence upon the tissues of the biliary tract. The action of another class is due to influence upon the biliary concretion itself. Those that act upon the tissues perhaps exert a local sedative action, lessening muscular rigidity, yet toning up muscular force. A result is obtained analogous to that of cocaine upon the uretha. A spasmodically contracted urethra may resist the passage of the smallest metallic sound when cold, yet if cocaine heat or other local sedative be applied a sound of average size may easily pass.

The drugs belonging to the first class are dioscorea villosa, carduus marianus, chionanthus virginica and probably most cholagogues. Those of the second class exercise a solvent effect upon the different component parts of the calculi, and though a solution may not be effected, assist in the reduction and molding of the calculi. The drugs representing this second class are: lecithin, olive oil, glycerin, the salicylates, ether, chloroform, turpentine, animal soap, nitro-muriatic acid, the succinate of the peroxide of iron, valerianate of amyl, toluylendiamin, pichi, Carlsbad salts and the alkalis in general. Lecithin is perhaps the most active solvent of cholesterin known. The action of the various oils are dependent upon the lecithin they contain. At present olive-oil affords the chief source for its administration. However, a large manufacturing establishment, in reply to a letter, has informed me they hope soon to place pure lecithin upon the market.

Gall-stones composed of cholesterin when raised to the temperature of the body may often be molded like putty into any form according to pressure. If lecithin does not put the cholesterin of the gall-stone into solution, it may so soften it as to permit this molding. The succinate of the peroxide of iron, hydrated, contains a large proportion of nascent oxygen, so that it is useful both as a prophylactic and an assistant in expelling calculi. Pichi dissolves the mucus and products of inflammation that bind together the cholesterin and calcareous matter.

Thus we see that medicinal treatment instituted for the removal of the calculi, should embrace the dietetic and hygienic measures suggested under prophylactic treatment; together with the combined use of both classes of drugs suggested as facilitating the expulsion of biliary concretions. In addition to the lentils and oxygenated waters mentioned, eggs, milk, especially buttermilk, whole wheat and corn breads complete the requirements of a diet list. They furnish oxygen, phosphates and lescithin. Such local measures as massage, counterirritants—especially the application of the salicylate of methyl—and the use of either hot or cold enemata are of some service.

The internal medication should embrace drugs that favorably modify biliary secretion, that relax the spasmodically contracted ducts, lend tone to normal muscular contractions, and assist in molding calculi when possible, together with those possessing a solvent action upon the calculi. Therefore the ideal prescription would contain lecithin as solvent for the cholesterin, pichi to dissolve the matrix of mucus, and dioscorea to assist expulsion.

Perhaps the greatest number of cases reported where gall-stones have been obtained have been due to olive-oil, the succinate of the peroxide of iron is an old favorite; lately valerianate of amyl and toluylendiamin have been favorably reported. Personally the use of the salicylates, dioscorea and olive-oil have served best.

A unique case occurring in the practice of Dr. E. S. Swain, of Smithfield, may be found of interest. This case has been reported and the specimens exhibited at the Louisville Pathological Society. Later the specimens were sent to Dr. Wm. Rodman of Philadelphia.

The use of dioscorea and olive-oil had been suggested in this case, which proved to be both biliary calculi and abscess. After several days' exhibition of the two drugs about 30 hollow gall-stones were passed. The supposition was that the lecithin of the olive-oil had dissolved out the cholesterin of the calculi, leaving the shell composed of biliary and lime salts.

In the Surgical Section of the American Medical Association in 1900 some few surgeons took the position that a diagnosis of gall-stones was sufficient indication for immediate surgical intervention. However, many surgeons echo the sentiments of A. Chauffard (Year Book of Medicine, 1902), who says: "Surgical treatment of hepatic colic is too frequently undertaken before medicinal treatment has been properly tested." Chauffard believes that the relief obtained by surgical means is likely to be only temporary, and that the factors which previously caused the formation of calculi still remain present.

The intention of this paper is to urge the use of prophylactic measures in those predisposed by diathesis, sex, age, occupation, or intestinal or hepatic disorders favoring biliary stasis and sepsis, and in those previously affected with biliary calculi. It is not claimed that all cases of cholelithiasis can be cured by medicinal means. It is desired to emphasize the fact that internal medication either alone or combined with surgical measures must be instituted before a radical cure can result.

In support of this it may be mentioned that only a very small proportion of cases of cholelithiasis ever require surgical intervention. And as mentioned by Chauffard, the etiological factors remain, and gall-stones may recur after surgical treatment. Furthermore, any inflammatory process or any foreign matter in the gall-bladder favors the formation of calculi. A case is reported where a secondary operation showed that a portion of a stitch, introduced at the first operation, formed the nucleus of the subsequent calculus.

Fiedler states that symptoms of gall-stones occur after operative procedures in 15 per cent. of cases.

Keay shows that one in every seven cases operated upon by Kehr underwent a second operation. Again the very occurrence of pain suggests that the calculus is small enough to become engaged in the duct, and therefore likely to be modified by medicinal agents.

However, it may be said, surgery and medicine are complemental and should be employed in all cases in which there is any opportunity of fered. Neither is independent of the other, but combined they accord a scientific and perfect treatment to cholelithiasis.

MEDICAL PROGRESS.

PHYSIOLOGY.

The Proteolytic Enzyme of the Spleen.—The products of the activity in an acid medium of the proteolytic enzyme found in cell-juices from the spleen of oxen are, according to J. B. LEATHES (Jour. Phys., Sept. 12, 1902), the same as those formed by trypsin in alkaline media or those formed by the hydrolytic action of mineral acids. As to the physiological significance of such an enzyme, should those found in the cells of other organs be similar, as is probable, the difference that the reaction most favorable to its activity is an acid one, cannot be said to exclude the possibility of such significance till more is known of the balance of molecules within the cell. There seem, for instance, to be grounds for the view suggested by Ehrlich that the reaction of the nucleus may be acid. Granted, however, conditions favorable for its action, the fact that the products formed are identical with those formed in the extracellular digestion of proteid foods, suggests that intracellular proteid catabolism is essentially a reversal of what one must infer from his knowledge of the digestion of foods to be the course of intracellular proteid anabolism. The same fact possibly throws light on the familiar phenomenon of starvation, where the analysis of proteid in muscles and certain viscera, the spleen included, provides the heart and nervous system with identical substitutes for the products of the digestion of proteid foods.

Results of the Resection of the Cervical Sympathetic.—Easily made and without any danger, resection of the sympathetic nerve in the neck produces phenomena of two kinds, permanent and transient, according to E. JENNESCO and N. FLORESCO (Jour. Phys. et Pathol. gen., Sept. 15, 1902). It causes the following: Myosis and ptosis (in cases of epilepsy; vascular congestion of the palpebral and bulbar conjunctiva of the gums and above all, of the brain, which persists for three and a half years after extirpation. The hypotonia, the suppression of perspiration after the injection of pilocarpine, the difficulty in mastication and swallowing, the influence on nutrition and on the general hyperesthesia, are phenomena that tend to disappear and do so at different times. There are no trophic disturbances following sympathectomy. The physical or intellectual development of the patient, whatever be his age, is influenced in no way.

New Experiments on the Resuscitation of the Human Heart.—Of considerable practical interest are the observations of A. KULIABKO (C'blatt Phys., Sept. 27, 1902), who succeeded in bringing back to pulsation the heart of a three-months-old boy who had died from a double pneumonia. Twenty hours after death the heart was cut out of the body, with no special care taken to the laboratory, and following the customary Langendorff method injected through the aorta with warm and oxygen-saturated Locke's solution. For a long time the heart remained motionless, but after the lapse of twenty minutes, weak and slow rhythmical contractions of the auricle began and later extended to the ventricle. At last the entire heart began to pulsate distinctly and worked regularly for an hour. The author repeated this experiment on other hearts with similar results. Even after thirty hours he could produce distinct contractions in the human heart in spite of the voluminous coagula which had already formed.

The Mechanism of Pancreatic Secretion.—The secretion of pancreatic juice, according to W. M. BAYLISS and E. H. STARLING (Jour. Phys., Sept. 12, 1902) is normally evoked by the entrance of acid chyme into the duodenum, and is proportional to the amount of acid entering. This secretion does not depend on a

nervous reflex and occurs when all the nerve connections of the intestines are destroyed. The contact of the acid with the epithelial cells of the duodenum causes in them the production of a body, "secretin," which is absorbed from the cells by the blood current and is carried to the pancreas where it acts as a specific stimulus to the pancreatic cells, exciting a secretion of pancreatic juice proportional to the amount of secretion present. The latter body is produced probably by a process of hydrolysis from a precurser present in the cells, which is insoluble in water and alkalis and is not destroyed by boiling alcohol. Secretin is not a ferment. It withstands boiling in acid, neutral and alkaline solutions, but is easily destroyed by active pancreatic juice or by oxidizing agents. It is not precipitated from its watery solution by tannic acid, alcohol or ether. It is destroyed by most metallic salts. It is slightly diffusible through parchment paper. The pancreatic juice obtained by the injection of secretin has no action on proteids until "enterokinase," one of the constituents of the succus entericus, is added. It acts on starch and to some extent on fats, the action on the latter being increased by the addition of succus entericus. It is, in fact, normal pancreatic juice. Secretin rapidly disappears from the tissues but cannot be detected in any of the secretions. It is apparently not absorbed from the lumen of the intestine. It is not possible to obtain a body resembling secretin from any tissues of the body other than the mucous membrane of the duodenum and jejunum. Secretin solutions cause some increase in the secretion of bile. They have no action on any other glandular secretion. Acid extracts of the mucous membrane normally contain a body which causes a fall of blood-pressure. This body is not secretin, and the latter may be prepared free from the depressor substance by acting on desquamated epithelial cells with acid. The authors in the course of this research discovered some evidence of a specific localized action of the vasodilator substance which may be extracted from various tissues. The products of metabolism of certain tissues would be found to act as vasodilators only for certain tissues in functional relationship to those in which they arise, or at all events would act to a greater degree on those tissues than on the rest of the body in general.

Oxygen and the Respiration of Muscle.—A former account of the survival respiration of amphibian muscle in an atmosphere of nitrogen, has, according to W. M. FLETCHER (Jour. Phys., Sept. 12, 1902), been confirmed and extended by the use of a more convenient method. In particular it has been shown that the introductory processes of rigor which are marked by a steady output of carbonic acid, are partially incomplete in the absence of oxygen. The rate of carbonic acid output characteristic of the gradual development of rigor in air is diminished by about 30 per cent. in an atmosphere of oxygen. It has been found that the normal rate of carbonic acid discharge during the rigor period for a muscle in air is always largely increased in an atmosphere of oxygen, the increment ranging from 80 to 300 per cent.

Human Intestinal Juice.—That the succus entericus does not in itself possess the power to digest albumin or fat, is the opinion of H. J. HAMBURGER and E. HEKINA (Jour. Phys. et Pathol. gen., Sept. 15, 1902). It digests starch but very feebly. The intestinal juice whose influence on the alimentary principles is so small, presents on the contrary a great activity when it acts conjointly with the pancreatic juice. The juice expressed from a fresh pancreas, placed in contact with coagulated egg-albumen, does not digest it. But if the succus entericus be mixed with the pancreatic juice, one notices an energetic digestion of the albumen. The explanation of this phenomenon is that the proteolytic ferment of the pancreas does not exist as such in the juice, but is under the form of a zymogen, in itself inactive. The succus entericus disengages the trypsin from the zymogen. This property is lost by boiling the succus entericus or by heating it at 67 degrees for two hours. This active material of the succus entericus is considered by Pavlow a ferment and called "enterokinase." The authors, however, disagree with this opinion and consider this substance, not a ferment, but a compound provoking the formation of enzyme from zymogen; they think, "zymolysine" is a better term. This substance also acts similarly on gelatin. The succus entericus does not exert the slightest influence on the two other pancreatic ferments, diastase or lipase. The authors also found in the succus entericus "erepsine," already recently discovered by O. Cohnheim in the intestinal mucosa of the dog. This substance possesses to a high degree the power of transforming hemi-albumose into other compounds not yet clearly defined. Zymolysine and erepsine are two different substances. The action of the latter is abolished by heating the intestinal juice at 59 degrees for two hours, while that of the former persists almost entirely. The secretion of the intestinal juice of man is strongly excited by the local mechanical irritation of the intestinal mucosa.

The Effects of Alcohol on Muscle.—It is surprising that in spite of the larger number of studies on the physiological effects of alcohol, few observations on the effects of this drug on isolated muscle have been made. Very interesting results have been obtained by F. S. LEE and W. SALANT (Am. Jour. Phys., Oct. 1, 1902) in a research on the action of ethyl alcohol on frog's muscle. In small quantity ethyl alcohol does not appear to exert any action on frog's muscle. In medium quantities it exerts a favorable action, which is characterized by a quickening of the contraction, a quickening of the relaxation, the power of making a larger number of contractions and of performing a larger amount of work in a given time, an increase in the working time, or in other words a delay of fatigue, and the power of making a larger number of contractions and of doing a larger amount of work before exhaustion sets in. This action is exerted directly upon the muscle protoplasm itself and not on the musculo-nervous tissue. In large amounts ethyl alcohol exerts on frog's muscle an unfavorable action which is in general the reverse of that caused by medium quantities of the drug; and is characterized by a decrease in the extent of the contractions, a decrease in the working time, or in other words, a hastening of fatigue, and in the power of making a smaller number of contractions and of doing a smaller amount of work before exhaustion sets in. The authors have discovered a stage in the action of alcohol which is altogether favorable to the activity of a particular kind of protoplasm, and suggest that the action of alcohol on other kinds of protoplasm ought to be very carefully examined. They believe that it is not improbable that studies of other narcotics along similar lines might be advantageously followed. They would warn others not to assume that the same results are true of the human being, for a drug may have entirely opposite modes of action in different species of animals, as pharmacology abundantly proves.

The Frontal Lobes and Sensory-motor Habits.—In a research undertaken to determine the relation of the so-called association-areas of the cerebrum to simple mental processes, S. I. FRANZ (Am. Jour. Phys., Oct. 1, 1902) arrived at the following results: Cats may be taught simple sensory-motor associations in from two to five days. Memory for these habits persists normally for a period of from seven to eight weeks. After a bilateral lesion in the frontal lobe the habits are lost.

This effect cannot be explained as due to shock, for other brain lesions are not followed by loss of habits. Unilateral lesions of the frontal areas are usually followed by a partial loss or rather a slowing of the association process. Habits once lost after removal of the frontal lobes may be relearned. After a second operation they are again lost and may be regained a second time. Only newly-formed habits are lost after such lesions. Inherited and long-standing habits seem to be retained. The emotional condition of the animal is practically the same after as before the operation. Emaciation and liability to disease were noted in all animals in which the frontal lobes were extirpated.

Relative Resorptive Power of Large and Small Intestines.—The recent experiments of F. REACH (Arch. ges. Phys., Bd. 86, S. 247) concerning the absorption of nourishing fluids by the intestines have clinical as well as scientific interest. In general, as might have been supposed, the activity of the small intestine was greater than that of the large intestine. Simple solutions of gelatin were less eagerly taken up by the lower bowel than were similar preparations of albumose. If, however, NaCl. (0.7 per cent.) was added to the gelatin solution its absorption was accelerated; whereas the same per cent. of salt, added to albumose solution, caused irritation of the mucous membrane and retarded absorption. In the small intestine it was found that gelatin solutions were somewhat more readily absorbed than were those of albumose. Here sodium chloride was inert if added to the former solution, but again produced irritation of the mucous membrane when added to solutions of albumose. The practical deduction from these experiments is that the addition of gelatin and sodium chloride to nutritive enemata, say in the form of a soup rich in gelatin, might profitably be utilized in some cases as a substitute for the commonly employed "peptone" preparations.

Effect of Fatigue upon the Spinal Cord.—In the course of an investigation as to the effect of fatigue upon the various organs of the body, G. GUERRINI (Arch. Ital. Biol., Vol. XXXVII, fasc. II, 1902) has found that the structural changes in the spinal cord of animals subjected to fatigue-tests have no preferred topographical site; that the changes seen are not peculiar to the fatigued condition, and that they are not so great as are the changes induced in the cerebral cortex through fatigue. The general aspect of the nerve-cells presented no constant type, their outline being either well-defined, indistinct or sinuous. Rarely were the cells atrophied. The protoplasmic prolongations were practically normal. The nucleus was found sometimes turgid, homogeneous, displaced, atrophied, or altogether absent. Chromatolysis was present in some instances. All cells possessed a nucleolus, though this appeared at times swollen, deformed, or otherwise changed.

The Physiological Action of a Few Constituents of Hops.—The physiological action of a lupulinic acid, according to K. FARKAS (Pflüger's Arch., Sept. 18, 1902), resembles in many respects (excitation of the inhibitory centers of the lungs and heart, paralysis of respiration, and later paralysis of the heart) the B. acid already described by Dreser; but the former attacks the central nervous system less, and the peripheral musculatur more energetically than the latter. Hops contain a substance soluble in water, which in cold-blooded animals is a powerful cardiac poison, but in warm-blooded animals is active in this respect only when introduced directly into the veins. Like curare, these substances are also ineffective when introduced into the stomach; in warm-blooded animals they are also ineffective when introduced subcutaneously, and this, like the rapid disappearance of the manifestations when non-fatal intravenous injections are used, indicates that the poisons are rapidly destroyed in the tissues. From these facts the conclusion must be drawn that the toxic constituents of hops should not be considered in discussing the action of beer, in which they have been almost wholly transformed into non-poisonous derivatives.

The Blood in High Altitudes.—A large number of observations made upon individuals at great altitudes, with respect to the various changes that take place in the constituents and properties of the blood, are reviewed at length by H. J. VAN VOORNVELD (Pflüger's Arch., Sept. 18, 1902). The most marked change noticed in the blood is a polyerythrocythemia. At a distance of 1,560 meters above the sea-level, the erythrocyte-count in men was found to average 6,551,000, and in women, it was 5,804,000. The optimum in the erythrocyte-count is found in the morning. Digestion and pregnancy cause a diminution in the number of red blood-cells, while massage and a cold bath increase it. The erythrocyte-count is greatest in the newborn and decreases until puberty, remaining stationary until old age, when it decreases still further. Altitude also causes an increase in the hemoglobin content. This, however, is also subject to cyclical and other variations. It increases to the extent of seven per cent. during the night, and decreases again during the day, with the peculiarity that during each period of digestion there is a greater diminution. Pregnancy causes a decrease in the hemoglobin. The increase of hemoglobin brought about by a stay in the mountains is at first relatively not so great as the increase in the erythrocytes. Both the hemoglobin and erythrocytes return gradually to the normal on the return to the sea-level. The specific gravity of the blood rises with the increase in altitude. Normally the specific gravity for men is 1,055; for women, 1,053.5, and for children, 1,051.2. Lower in the morning than in the evening, it also sinks during the period of digestion. In anemia it usually falls. There is almost a constant relationship between the hemoglobin content and the specific gravity, which is not surprising, since the specific gravity is to no small extent dependent upon the hemoglobin content, 100 grams of blood containing about 14 grams of hemoglobin. As regards the morphological changes in the red blood-cells, it has been found that microcytes and poikilocytes are present in the blood at high altitudes. The significance of these changes has not yet been determined. In general it may be said that poikilocytosis occurs whenever important changes are taking place in the blood. In order to understand the nature of these changes it is necessary to review some facts concerning the effects of high altitudes upon various physiological processes. If the effects of climbing and fatigue are disregarded no important change in the rate and depth of respiration takes place. On the other hand, an increase in the pulse-rate occurs. There is a constant increase in the respiratory coefficient. This is obtained by dividing the number of c.c. of carbon dioxide exhaled in one minute by the number of c.c. of oxygen inhaled in that time. In the mountains one inhales from eight to 20 per cent. more oxygen than at the sea-level, but proportionately more carbon dioxide is got rid of. At high altitudes less nitrogen is eliminated than at ordinary levels, whereas the non-nitrogenous bodies, particularly the carbohydrates, are consumed to a greater degree. In connection with this subject it is necessary to note that in the European mountains at altitudes of 4,000 meters and over, there appears in certain individuals the so-called "mountain-sickness," which manifests itself in insomnia, fatigue, nausea, anorexia, dyspnea, and acceleration of the pulse. A predisposition to this disease is necessary, and this predisposition seems to be awakened by fatigue. In return-

ing to the original question, namely, what different climatological factors occasion the known changes in the blood in the mountains, the author believes they are to be attributed to the lowering of the pressure of the air as found at high altitudes. The manner in which this operates in increasing the number of erythrocytes is as follows: These bodies are formed in postembryonic life in the red bone-marrow, from which they are partly transported for reserve to other locations (spleen? liver-capillaries?) either as finished erythrocytes or as their precursors (erythroblasts, megaloblasts). When required for use, and also when the oxygen-pressure is diminished, the erythrocytes are sent into the circulation, while the loss in the reserve supply is made up by a new formation in the bone-marrow and also in the circulating blood. Whether the diminished oxygen-pressure is the only cause of polyerythrocythemia or not is uncertain; yet it is quite possible that the modified metabolism at high altitudes causes the formation of chemical products, which may exert a chemotactic influence, bringing into the circulation or causing the formation of a greater number of red blood cells. In many forms of heart-disease in which the circulation of the blood and consequently the gas-diffusion are disturbed, there occur the same compensatory changes as in high altitudes; for generally cases of heart disease present an increase of erythrocytes and of hemoglobin, the former reaching from 8 to 9 millions. It has been proved that carbon dioxide possesses the property of causing a swelling of the red blood-cells; therefore the accumulation of this substance in the blood serves as a stimulus to increase the entire respiratory surface of the blood, and in this way to promote the exchange of gases. Likewise dyspnea causes an increase in the red blood-cells and hemoglobin, and the same effort toward the production of an equilibrium is observed in phosphorus-poisoning. These examples of the adaptation of the blood to the environment are analogous to the observation made by Humboldt upon the inhabitants of the Andes, in whom an extraordinary chest-capacity is the result of the adaptation of countless generations of individuals to the rarefied air of the high altitude. A very interesting example of the adaptation of the blood is seen in cerebral hemorrhage, when an increase in the specific gravity of the blood as well as of the red blood-cells occurs. This is but another instance of the same adaptive capacity of the blood, which to a high degree possesses the power by rapid and substantial changes to adapt the body to the modification in the environment, whether in or outside of the body, with or without the presence of great physical stress. This capacity of the blood is one of the nicest and most interesting regulatory mechanisms with which physiology is acquainted.

Fate of Oxalic Acid in the Body.—In the consideration of this question A. MONTOURI (Arch. Ital. Biol., Vol. XXXVII, fasc. III, 1902) directs attention to the importance of the liver in the modification of the various substances introduced into the body, and gives the outcome of recent experimental study of the elimination of oxalic acid through the urine, after injection of that acid into a branch of the portal vein and into peripheral veins. The author proceeded as follows: After a period of exclusive milk diet, to ensure entire absence of oxalic acid from the urine, a small quantity of neutral oxalate of potassium dissolved in an isotonic sodium-chloride solution was injected into the external jugular vein of a rabbit, and the amount of oxalic acid eliminated by the urine during 24 hours was carefully estimated. Subsequently the same animal received, under exactly the same conditions, a like quantity of the solution into one of the small mesenteric veins, with the result that almost the entire amount of acid injected in the first instance appeared in the urine, while practically none of that introduced into the portal branch was excreted by the urine. Further experiments with increasing doses of oxalic acid demonstrated the limitation of the liver's power to prevent appearance of the acid in the urine. Proof that oxalic acid thus injected was not simply stored up in the liver, was afforded by placing in the thermostal liver-sections of a dog killed by bleeding, to which was added the dog's own blood, defibrinated, and 10 per cent. of oxalic acid. But 30 per cent. of the acid was recovered after withdrawal from the thermostat, while the same mixture, not subjected to digestion in the thermostat, yielded 90 per cent. of the original amount of acid. Attempts to determine the products of oxalic-acid decomposition by the liver did not meet with unqualified success, though a certain relation between ingestion of oxalic acid and elimination of uric acid was established. Further, that uric acid is formed by the liver in the presence of oxalic acid was shown by producing artificial circulation through the isolated liver of defibrinated blood to which neutral potassium oxalate was added. Uric acid was found in considerable quantity in the blood so treated, as well as in experiments with defibrinated blood and oxalic acid subjected to digestion in the thermostat in the presence of liver-sections. The fact that the liver is capable, within certain limits, of preventing the passage of oxalic acid into the urine explains, in the author's belief, the conflicting opinions as to the occurrence of alimentary oxaluria, which condition should be considered in its relation to the liver's integrity and to the amount of oxalic acid ingested.

Physiology of the Caudate Nucleus.—A contribution to the knowledge of this subject has been made by D. LO MONACO and G. BELLANOVA (Rif. Med., Oct. 8 and 9, 1902) through extirpation of the head of the caudate nucleus. Dogs subjected to this operation upon the right side developed a partial paralysis of the left side of the body with hyperesthesia and loss of the muscular sense. The authors challenge Sgobbo's theory that the symptoms induced by lesion of the caudate nucleus are due to compression of neighboring parts from the extravasation of blood in the ventricles, and give the findings at autopsy in the animals experimented upon, showing absence of any considerable hemorrhage. It is concluded from the work done that the caudate is a true sensory-motor ganglion and the question is discussed, whether its action depends upon the nerve elements of which it is composed or upon connection, through its radiating fibers, with the motor zone. The theory is advanced that injury of the caudate not only leads to suppression of its function but induces disturbance of the equilibrium of the motor zone, this equilibrium being reestablished after a lapse of time. This hypothesis receives at least partial confirmation from the fact that within about a month there was attenuation of paralysis in the dogs operated upon.

Iron in the Body in Health, in Leukemia and in Chlor-Anemia.—Many and varied are the opinions concerning the absorption and elimination of iron. C. BARTOLETTI (Rif. Med., Oct. 1, 2, 3, 4, 6 and 7, 1902) has studied the subject from the standpoint of its elimination by the urine, in the belief that the question of absorption can not be determined till a definite knowledge of its elimination is acquired. It was found that the amount of iron in the urine varies with the diet. In the author's experience a mixed diet caused excretion of mgr. 2.89 to 2.14 and meat diet mgr. 5.19. Daily variations in the quantity of iron eliminated were very limited, and such variations were in relation with the amount of urine passed and to some extent with its color. Hypodermatic injections of iron, in the normal individual cause increased elimination of that metal,

this being observed only upon the day following injection. The quantity of iron in the urine of leukemic patients is slightly diminished, being about equal to the minimum met with in health. In chlor-anemia, the amount of iron eliminated is inferior to the normal, with noticeable variations; such variations being absolute or relative to the amount of urine voided. Injection of iron in anemic patients induces increased elimination of that substance by the urine solely during the day following injection, and the quantity of injected iron excreted is less than that eliminated after injection in the normal subject. The relation between iron in the blood and that excreted through the urine is not constant and a greater quantity of iron may be eliminated by individuals in whom the iron-content of the blood is poor than by those whose blood is rich in iron. It would therefore seem that elimination of iron by the urine is subject to certain unknown laws, and the author advances the hypothesis that such elimination depends upon the functional capacity of the kidneys for the passage of that metal or upon the temporary and variable immission into the blood of iron ordinarily stored up in such organs as the liver or spleen.

HYGIENE.

Milk as a Conveyor of Sepsis.—It is well known that milk may convey such systemic diseases as typhoid fever and tuberculosis, but records are few where it has been proved to be a source of septic sore throat. W. J. NASH (The Lancet, Oct. 18, 1902) records such a case. There was a sudden outbreak of severe septic sore throat, first appearing on June 27, and caused, according to bacteriological examination, by staphylococci and streptococci. The new cases developed as follows: June 29, 4; June 30, 15; July 1, 12; July 2, 3; July 3, 2; July 4 to 9, both inclusive, 5; making a total of 42 cases distributed throughout 22 families. In addition to these there were several mild cases of the same trouble beyond reasonable doubt, but not severe enough to drive the patients to seek medical aid. All, however, had been consuming the same milk. All of the cases investigated gave the same clinical symptoms and bacteriological findings. As to the origin of these cases, it was found that in every instance the milk was obtained from the same dairy. No case of sore throat came under notice during this period among patients drinking milk from any of the other dairies supplying milk to the author's patients. He thinks that this proves conclusively that the source of this outbreak was some infection in the milk and cream of this particular dairy. He believes that the poison in the milk was most active on June 29 and 30. On Sunday, June 30, many persons consumed cream with fruit and these included nearly all the worst cases. In some families children who drank boiled milk escaped, while parents who consumed unboiled milk or cream were attacked. One man took cream as ice-cream and had a very severe attack. On making inquiries of the dairy-farmer, the author could obtain no information as to illness among the cows or milkmen. He went over the farm, and found that the water supply for the cows was very good, the cow-sheds were clean, the milk-pans were said to be scalded with boiling water, and, as far as one could judge, the arrangements were excellent.

OBSTETRICS AND GYNECOLOGY.

Chloralhydrate in Eclampsia.—Although chloralhydrate is generally considered as the best of medicinal treatment of eclampsia, it is nevertheless a fact that this remedy is only occasionally used in a rational manner and in sufficient doses. Most practitioners administer the drug by rectum. According to the experience of COMMANDEUR of Lyons (La Sem. Med., Oct. 1, 1902) this method is defective because the rectal mucosa does not always absorb the drug. A certain number of patients do not retain an injection containing it, but reject it more or less without the perception of the attendant. The remainder of the patients do not fail to show a rectal intolerance of such a degree that it is often impossible to administer more than five or six enemata containing it. For this reason this authority prefers giving this remedy by the mouth, observing, however, two important precepts, formulated originally by Foucher. Before administering the drug, the stomach should be washed out to quiet the irritability of it. Then the medicine must be dissolved in a large quantity of water, namely, 100 to 150 drams to every dram of chloral. Given in this manner it is well tolerated, fully absorbed, and may be given in large doses for some time. Commandeur has been able to give 14 grams (ʒiiiss) within 40 hours. In four cases in which he has tried this method of administering the drug he has seen the pregnancy follow its course to the end in a manner which might be described as entirely exceptional.

SURGERY.

Present Position of Treatment of Prostatic Enlargement.—The merits of the various methods employed for the relief of hypertrophy of the prostate are discussed by C. M. MOULLIN (Ed. Med. Jour., Oct., 1902). It is generally agreed that the catheter should be employed when the bladder fails to expel the last two or three ounces of urine and when the night's rest is beginning to be habitually broken. If the relief obtained is satisfactory nothing more is required, though the treatment is by no means ideal, since it does not remove the cause. The point that is constantly forgotten, however, is that the enlargement does not remain stationary, since the strength of the muscular coat of the bladder is constantly diminishing and the obstruction at the neck constantly increasing. There are also many cases in which this treatment from the first is unsatisfactory, and there are others where the chief feature is not so much vesical inability or mechanical obstruction as it is irritability of the bladder, especially as seen among stout men accustomed to an active life. There is little or no residual urine, yet the patient must rise several times at night, with pain not ceasing until the bladder is empty. The prostate is not very large, yet tense and rounded, and drawing off the water aggravates matters, while measures tending to reduce the hyperemia often relieve. Other cases not benefited are those in which there is an outgrowth at the neck acting like a ball-valve, and which should be extirpated, or where there is thickening of the posterior median wall of the prostatic urethra, arising from a glandular hypertrophy of the submucous layer. In a number of cases, especially where there is hypertrophy and congestion of the lateral lobes, it may be impossible for the patient to introduce the catheter himself. There is another large class where other relief must be sought—where the frequency of catheterization has to be increased and the patient is liable to attacks of prostatic congestion; or where cystitis develops or bleeding is common. It is thus clear that catheterization is far from perfect, and that it is frequently responsible for pyelonephritis, septic prostatitis, thrombosis of the prostatic plexus, periprostatic suppuration, epididymitis, and urethritis. Turning now to prostatectomy, the cases best suited for this are those in which there is a large, irregularly grown or lobulated prostate, and in which the kidneys have not yet been seriously injured. The size of the growth is no obstacle. If the bladder is small and contracted the perineal operation is the better of the two; in other cases, especially where

there is much intravesical growth, the suprapubic route is to be preferred. If general nutrition is good the age of the patient need scarcely be considered, but the operation should not be performed shortly after an attack of acute retention. It is not advisable where there is a small, hard prostate associated with atony of the bladder, or where there is septic pyelonephritis. The mortality does not exceed 10 per cent. in proper cases. The extent of bladder-control after the operation depends upon the extent to which the walls have already been injured, and when there is merely atony from disuse recovery is the rule; hence the operation should be performed early, though the amount of improvement which may take place is often surprising. Bottini's operation is chiefly useful in the early stages, when the symptoms are largely due to congestion, and in those cases in which there is a dense fibrous prostate of no great size, associated with atony of the bladder. Operations upon the testes and spermatic cords are performed with one of three objects: (1) Causing atrophy of the enlarged prostate; (2) preventing attacks of congestion; (3) very occasionally for checking the attacks of acute epididymitis which are so common after careless use of the catheter. For this latter simple ligation of the vas is sufficient. With the exception of section of the whole cord, or removal of the entire testis, other operations on these structures are of only temporary benefit, but orchidectomy no doubt in some cases gives permanent relief. Yet objections have been urged against it, such as the disappearance of sexual activity, the possibility of intellectual failure, and the comparatively high mortality. In cases in which the symptoms are due to chronic inflammation and repeated attacks of prostatitis, rather than to overgrowth, and in those in which the prostate is only moderately enlarged and intensely hard, orchidectomy does little or no good; but where uniformly enlarged, smooth, elastic and round, the obstruction was relieved. Finally, drainage of the bladder, suprapubically or through the perineum, must be mentioned as a palliative operation in advanced cases.

Postoperative Retention of Urine.—That the frequency of retention of urine is proportionate to the severity of the pelvic operation, is clear from the table of F. TAUSSIG (Münch. med. Woch., Oct. 7, 1902), who quotes 64 per cent. after abdominal radical hysterectomy and only 1.4 per cent. in simple anterior celiotomy. It is probable that the stripping off of the tissues from the bladder is responsible for the condition, for though vascular and nutritive changes do not occur in the bladder-wall, it is likely that nervous connections are severed, and it requires some time for the remaining ganglia to adjust themselves. The unavoidable result of retention and frequent catheterization is cystitis; but the catheterization is not alone responsible for this, for bacteria can also travel from the rectum into the bladder when there is stagnation. Concerning treatment, intravesical faradization does good in a few cases; in several others the paralysis was overcome by letting the patients wait up to 30 hours. Dilatation of the urethra is sometimes followed by relief. The value of urotropni has been overestimated; it seems to inhibit the growth of bacteria, rather than to kill them and severe cases always require irrigation with some silver salt. The prognosis as a rule is good, one to four weeks being required for a cure.

Dulness in Appendicitis.—To know just when a case of appendicitis should be recommended for operation is a question which is frequently extremely difficult to settle even by those with the widest experience. H. T. MILLER (Med. Rec., Oct. 18, 1902) believes that an infallible symptom lies in the presence or absence of dulness in the appendicular region. He does not mean that that sign alone is sufficient to indicate operation but when the other symptoms of appendicitis are present, dulness makes the postponement of operation extremely hazardous. In acute attacks of appendicitis, without dulness, the case should be treated conservatively, but if dulness should appear and remain, operation should always be advised and the probabilities are that if pus is not already formed the operation will find an injected appendix with a plastic exudation and threatening formation. The other conditions which give dulness in the right iliac fossa can usually be easily differentiated from appendicitis. Pain in the region of the appendix does not always mean appendicitis but localized dulness with the associated symptoms of appendicitis always does.

MEDICINE.

Morbid Conditions of the Mouth.—Among the services to mankind and the medical profession which bacteriology has rendered, is the demonstration that the mouth, even in cleanly persons and in health, is the resting-place of a great many dangerous bacteria. In an exceedingly valuable lecture on this subject, E. W. ROUGHTON (The Lancet, Oct. 18, 1902) discusses it under a variety of important subheadings, the following of which are of greatest practical importance. First: the relation of bacteria of the mouth to disorders of digestion, which is an influence hitherto doubtless much underrated. Miller remarks that persons are frequently met who carry such filth in their mouth as they never would tolerate on their skin. The physician who must insert his finger into such a mouth is well-nigh overcome with disgust. The fetor, the thick deposit on the teeth in a state of bacteria fermentation, the intense redness, inflammation or even suppuration of the gums, decaying teeth or roots of teeth, chronic abscesses and other putrefactive processes are among the common conditions which render the mouth a cesspool. Such patients travel from one health resort to another, from one physician to another, whereas ordinary care of the mouth, with the services of a good dentist, would remove much or all of their trouble. For many years it has been recognized that many disorders of the stomach and intestines owe their origin to buccal fermentation and putrefaction. In diseases which lead to either insufficient acid-formation or abnormally long retention of food in the stomach, undue fermentation very readily takes place. Thus, carbohydrate food is decomposed markedly into gaseous products either by alcoholic, acid, lactic or butyric fermentation. Ewald mentions a case in which the patient aptly described his case as "a vinegar factory alternating with a gas factory." Sometimes this patient belched up the higher compounds of carbon hydrogen which ignited in front of the face with a candle-flame. There can be no doubt that the mouth acts as a breeding or starting place for a certain amount of the bacteria which set up this kind of fermentation in the stomach. Miller has demonstrated twelve varieties of bacteria in the mouth and the same in the feces and eight of the same in the contents of the stomach. He also found that the stomach-contents from each patient, pumped out three hours after a meal and placed in an incubator did not become sterile until after a lapse of 14 hours. He therefore concludes that bacteria which may pass alive into the intestines from the stomach in this manner would cause trouble there. Schurkshorp deems that out of every hundred bacteria found in the feces, 97 come from food and drink, and three only from the mouth itself, when this is clean and well-cared for. In neglected mouths, however, as many as 30 per cent. certainly come from this source. The actual clinical association between a bad mouth and poor digestion is illustrated by a case reported by Miller in which a woman who complained of her life being in-

supportable because of digestive troubles came to him with a "handful" of various prescriptions which she had tried. The almost inexpressible condition of her mouth suggested to him the cause. After the return of the mouth, under considerable treatment, to a healthy condition, the balance of her digestive tract readily recovered. Not only functional troubles but organic diseases of the stomach and intestines may certainly have their origin in the mouth. Hunter records a case of subacute infective gastritis, secondary to suppuration around decayed teeth. The symptoms suggested cancer, all of which disappeared when the carious teeth were removed, and the mouth cleansed, disinfected and kept healthy. Bacteriological examination of the stomach contents in this case showed a fibrinous exudate, abundant in streptococci, which were also very abundant in the mouth. The other important point which Roughton discusses is the mouth as a source of infection to others. He says that the mouth is not only a source of many varieties of infection to its owner, but it may be the means of transmitting disease to other individuals. The presence of virulent diphtheria bacilli in apparently healthy mouths and the possibilities of spread of infection have long been known. Operations in uncleanly mouths are always attended by more or less risk to the operator himself. Miller records a case in which a scarcely perceptible injury of the finger by an instrument used in excavating a tooth was followed by severe swelling of the finger and back of the hand, resulting in the formation of a large and stubborn abscess, which did not heal until after several incisions had been made. A still more serious case occurred some years ago in the practice of a dental hospital. A student scratched his finger on the sharp point of a diseased root. On the following day swelling, redness and tension, accompanied by intense pain, ensued, which rapidly spread to the arm and shoulder; high fever, delirium and other symptoms of blood poisoning arose and only by the most energetic treatment, and after a long period of illness was the danger of a fatal result completely removed. The transmission of the syphilitic virus by means of saliva and instruments employed in the mouths of syphilitic patients is a frequent occurrence. Dulles reports a case in which a patient developed a chancre of the lip two weeks after extraction of a tooth by a dentist. Otis saw chancre of the lip developed about three weeks after a morning spent in a dentist's chair. Bulkley records 30 cases in which syphilis was communicated through bites or blows on the teeth, as well as several cases in which the dentist had inoculated himself by scratching the finger upon a patient's tooth. Veritable epidemics have been caused by infection with the saliva of syphilitic persons. At Philadelphia in 1878 a number of boys were tattooed by a man who was in the habit of moistening the instrument he used with his saliva. Every one of the boys who were tattooed became affected with syphilis. In the Russian province of Wiatka it appears to be the custom among the peasants to ascribe all forms of disease of the eye to the presence of a foreign body, and to attempt to remove the latter by inserting the tip of the tongue between the eyelids. Some individuals acquire a certain dexterity with their tongues, and are employed to perform the operation. In this way 34 persons were infected by a single syphilitic woman and as many more by other individuals.

The Supposed Parasite of Yellow Fever.—Extracts from the official report of the American Commission to Vera Cruz, given by A. AGRAMONTE, (Rev. Med. Cubana, Oct. 15, 1902) contain the statements that the bodies described are found solely in the blood of yellow fever patients and that they may be considered to bear a distinct etiological relation to yellow fever. Subsequent to the issuance of this report, Agramonte, upon his return to Havana, found these same bodies in the blood of apparently healthy subjects. Hence he concludes that a definite assumption of their causal relation to yellow fever is not justified. The so-called parasite is described as a globular, hyaline and, at first sight, transparent protoplasmic mass. Within the body fine granules may be seen, which are not equal in number or size to those seen in lymphocytes or other white cells; and these granules exhibit rapid pedesis, though the body as a whole is devoid of the power of locomotion.

Arterial Alterations and Hemorrhage in Cirrhosis.—Hemorrhages are not infrequent in diseases of the liver. These hemorrhages are often admittedly due, writes CH. BOUCHARD (Revue de Méd., Oct. 10, 1902) to vascular changes which are secondary to autointoxication, the latter being in turn due to failure of the hepatic cells to destroy the toxins which habitually reach the liver from various sources. On the other hand hemorrhage from the region drained by the portal vein may be due to local augmentation of tension resulting from mechanical obstruction. A third class of cases is usually overlooked; these are due to hepatic secretions, for if the liver is normally a destroyer of poisons it is also a producer of them, and diseases of the liver may either augment the production of these toxins or may turn them away from their usual channels of escape. There is no reason why internal hepatic secretion may not be responsible for hemorrhage, for it is known that extract of hepatic cells causes vascular dilatation and that the liver elaborates substances capable of preventing coagulation. Esophageal or rectal bleeding is explained logically by portal hypertension, but the latter will not account for bleeding from the gums, for epistaxis nor for purpura. The source of hematemesis is not always the stomach or esophagus; nævi of the pharynx are common in cirrhosis and these may be the source of the blood which finds its way into the stomach. Bouchard has seen cutaneous nævi develop and disappear side by side with the growth and amelioration of symptoms of hepatic cirrhosis. The history in these cases showed distinctly that the nævi were not venous varicosities; one of them was accidentally injured and the typical arterial remittent jet resulted. Subungual capillary pulse was noticeable in this case, although postmortem examination showed an absence of aortic insufficiency. The general tendency to arterial dilatation associated with hepatic cirrhosis may therefore manifest itself in divers ways and situations. Epistaxis in cirrhosis may possibly be due to cachexia or dyscrasia, but it is usually arterial. Rhinologists commonly ignore the relation of this ailment to the underlying hepatic disease. As a rule the epistaxis of cirrhosis is confined to a single nostril, by preference the right nostril.

Studies in Diphtheria.—During twelve months 709 children were sent to the Hospital Brettoneau with the clinical diagnosis of diphtheria. The diagnosis of true diphtheria was bacteriologically confirmed in 580 cases. The results of the treatment of and complications in these cases have been studied by A. JOSIAS and L. TOLLEMER (La Méd. Moderne, Oct. 8, 1902). The total number of deaths, excluding deaths occurring in less than 24 hours, was 58. Among these 29 were attributed to bronchopneumonia as the sole or the determining cause. The authors emphasize the practical value of isolating from simple diphtheritics those patients who are attacked with bronchopneumonia for the reason that the latter disease is highly contagious in children. They believe that the rate of mortality in hospitals can be lessened in this way. The rate of mortality in the Brettoneau cases is practically that which obtains gen-

erally in Paris hospitals under antitoxine treatment, and less than half the rate which prevailed prior to the introduction of the serum treatment. The authors discuss the possibility of lessening the death rate by improving the method of administering the curative serum. But one means seems available—to introduce the antitoxin as early as possible in the course of the disease. It is a common practice among private physicians in Paris to omit the antitoxine treatment, relying upon the hospital to give the necessary injection when the patient is admitted. This omission on the part of the private practitioner is often fatal to the patient.

Treatment of Atonic Dilatation of the Stomach by Means of High Frequency Currents.—In the eyes of many of us electricity as a therapeutic measure is not without doubtful results, so much so that one is apt to regard successes as coincidences rather than results. T. J. BOKENHAM (The Lancet, Oct. 18, 1902) discusses his results in the treatment of atonic dilatation of the stomach by means of high frequency currents. His experience leads him to think that the immediate and possible and only effects are to give tone directly or indirectly to the vagus nerve and to the unstriped fibers which constitute the muscular walls of the stomach, and as a result of both of these contraction and diminution of the size of the organ occurs. The technic of this treatment he describes in the following terms: The apparatus employed consists of a Rhumkorff coil, capable of giving a 12-inch spark with heavy discharge. The interruption of the primary circuit was at first affected by the ordinary vibrating hammer or by a mercury dipping break, but these have for a long time been discarded in favor of the improved Mackenzie-Davidson break, which has for some months past worked excellently, and with scarcely any trouble. The secondary wires of the coil are led to the inner coats of two Leyden jars of large capacity, which are furnished with adjustable dischargers, after the plan of D'Arsonval, the noise of the discharge being deadened by enclosing the discharging knobs in a glass-lined oak box. The outer coats of these jars are connected, through a variable number of turns of thick wire, one of which is led to earth, the other being connected to the lower coils of an Oudin resonator. The current used for the treatment is obtained from one of the upper coils of the resonator and it is a very rapidly "surging" alternating current of high voltage. This current is applied in a variety of ways by means of special electrodes which may be classed as (*a*) monopolar brush electrode, (*b*) glass or ebonite condensor electrodes of various forms and capacity; and (*c*), moistened plate electrodes of flexible sheet-lead and of large size. As regards the electrical conditions set up when these different electrodes are used there is considerable difficulty in speaking with certainty, so many factors have to be taken into account, while but little is really known about the actual physical conditions. In the early cases treated, the patient was placed on a couch and the region of the stomach "sprayed" with a brush electrode held at a distance just beyond that at which a direct spark would pass between the electrode and the skin. The effect experienced was described as similar to the dropping of a shower of warm sand on to the skin, and after a few minutes peristaltic movements of the stomach would often be distinctly felt. A very convenient condensor electrode may be made by filling a large, flat-bottomed flask with salt water and passing a wire through an india-rubber cork fitted to its neck, the free end of the wire being connected to the resonator. With such an arrangement the effect is, perhaps, more exactly localized to the region it is desired to influence. The lead foil electrode is of such a size as to cover the whole gastric area, close contact is assured by interposing a layer of wet flannel between the metal and the skin. With this the patient usually feels scarcely anything over the area of application, and the quantity of the charge depends upon the electrostatic capacity of the individual. The effect of the application is in most cases highly invigorating. As illustrating his results he gives detailed histories of 17 cases with rather satisfactory results.

A New Treatment of Pulmonary Phthisis.—Many improvements, especially in the general management have been made in the treatment of phthisis, but still much remains to be done. D. TURNER (The Lancet, Oct. 18, 1902) gives the following observations of a new method of treatment carried out partly in private practice, but chiefly in the Sanitarium for Consumptives at Mascom, near Melbourne. For many years he has been convinced of the value of massage and electricity in restoring general tone to the system and improving the nutrition generally. On many occasions he has seen the usefulness of rubbing with cod-liver oil children suffering from tuberculosis of the bowels, as recommended by the late S. W. Simpson, and had determined to try massage and electricity on tuberculous adults, and then was led to endeavor to administer certain remedies through the skin by massage, rather than through the stomach. Cod-liver oil, creosote and guaiacol are nauseating to many persons and produce indigestion. After six or seven years' experience, he is confident that all the physiological effects of these remedies may be obtained by external use. The combination employed by him is creosote or guaiacol, one part; oil of citronal, one part; and cod-liver oil, twenty-seven parts. Oil of citronal merely disguises the odor of the creosote and cod-liver oil. This oil-massage, as it might be called, has now been used at the above sanitarium for three seasons, and with better results at each successive season. The sanitarium has been for several years relying on pure air and good food as the only means of restoring the health to the tuberculous, with a little cod-liver oil added as medicine. Under such a system the results, though fairly good, were disappointing, but the introduction of the oil-massage gave very good results. At the sanitarium the application of the oil massage is made daily. The patient, after being hardened by repeated cold sponging for two or three days, lies on a couch, all clothing being removed. Then the body is sponged with a weak solution of bicarbonate of soda (one dram in a pint of water) and dried with a soft towel. The oil mixture is then rubbed in all over the trunk, from the neck to the pelvis, back and front, the quantity used at a time being from one to two tablespoonfuls, according to size and age. In cold weather a small blanket serves to keep the body partially covered. The process occupies a quarter of an hour and its efficacy depends very much upon the vigor of the operator; if only carelessly smeared on without being rubbed in, very little benefit will ensue. Over the abdomen some kneading is done in addition to the rubbing. When galvanism is used generally only one pole is applied over the solar plexus while the other is moved up and down over the upper part of the spine. What share of the results, if any, is due to the electricity, he is unable to say with any degree of accuracy, as generally the galvanism was used at the same time as the massage, and it was impossible to superintend the work personally. The cases where galvanism was not used seemed to do as well as those in which it was applied. The drawbacks to the treatment are the unpleasant odor and the amount of labor connected with it, but if such a fatal disease as tuberculosis of the lungs can be cured small obstacles are not deserving of consideration. Its advantages are many, including immediate relief to symptoms. If the

patient is feverish, the temperature generally falls a degree or more after every rubbing, the cough is easier, the appetite improves and the night sweats cease; there is a general feeling of well-being, and the improvement in the lung goes on *pari passu* with the gain in weight. With respect to gain in weight the author remarks that it is well known in sanitarium practice that patients may gain in weight without any corresponding improvement in the lung, and that gain of weight taken by itself is not a reliable test of the beneficial results of any treatment. It is not unusual for patients to increase in weight while their temperature is at 101° or 102° F., but, of course, there is no real improvement in such cases. In private practice if the patient is following any vocation he uses pure olive oil alone and also with patients who are staying at hotels and boarding-houses. He is not by any means satisfied that this is so efficacious as the cod-liver oil and creosote, but undoubtedly it is a great help to other remedial measures. What he especially claims for oil massage is that it materially shortens the time of treatment. It is not recommended in advanced stages or where there is a proneness to hemorrhages. In children the results are better than in adults. In the tuberculosis of children if the climatic conditions are favorable the treatment acts like a specific, and if commenced in an early stage of the disease will generally restore the patients to health in from two to three months.

HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

Value of Widal in Typhoid.—Several interesting points in regard to the value of the Widal reaction in diagnosing typhoid fever are brought out by J. S. BILLINGS, JR. (N. Y. Med. Jour., Oct. 25, 1902) in a report upon the specimens of blood which have been examined by the Board of Health during 1901. There were 1,908 specimens examined and of these 304 showed a positive reaction, and 111 cases were considered typhoid clinically, although the blood was doubtful or negative. In 131 instances where the result of the examination was doubtful and in 1,362 where it was negative the cases proved not to be typhoid fever. According to the rule instituted by the Board of Health in a positive reaction there must be well marked clumping and death of the bacilli within ten minutes when the serum is diluted twenty times. Every case showing a positive reaction proved clinically to be typhoid. The large number of negative results in true cases of typhoid can be easily explained by the fact that many of the specimens were taken early in the disease and subsequent material could not be obtained. It is well known that the reaction frequently does not appear till late in the disease and may remain only for a few days. In a large percentage of the positive cases the reaction was not obtained till the seventh or eighth day. Yet in a comparatively large number several examinations were made with negative results and yet autopsy showed the correctness of the diagnosis. It, therefore, follows that although a positive result may be taken as meaning typhoid with almost absolute certainty, yet a negative result does not by any means preclude the possibility of typhoid and demands that another specimen be sent if the clinical signs persist.

EYE, EAR, NOSE AND THROAT.

X-rays in Treatment of Laryngeal Cancer.—On account of the difficulty with which malignant growths of the larynx are removed and also on account of the serious interference with phonation which must necessarily follow the operation, the possibility of the use of the X-rays in the treatment of this condition has aroused the hopes of those unfortunate sufferers and they frequently demand the probabilities of permanent relief. D. B. DELAVAN (Med. Rec., Oct. 18, 1902) has thoroughly reviewed all the cases that have been reported as being treated by the X-rays and has failed to find a single instance in which a cure was claimed. Although the good results which have been obtained from the action of these rays in malignant growths elsewhere would lead one to hope for great benefit to the laryngeal cases, yet the evidence thus far available is too meager to warrant taking very great chances. In early cases the only safe way, therefore, at the present time, is to recommend the radical operation of extirpation, for that offers a goodly percentage of permanent cures. If it is necessary to delay operation for a short time or if the tumor seems to be of very slow growth it is justifiable to test the action of the rays for a few days at least.

GENITO-URINARY AND SKIN DISEASES.

Varicocele.—There is a wide difference of opinion in regard to the relative importance of local and constitutional causes of varicocele. The lack of vascular tone is undoubtedly an inherited weakness in many instances but the exciting causes are the more efficient. Among the latter C. CHASSAIGNAC (Med. Rec., Oct. 18, 1902) mentions chronic constipation, occupations compelling long standing, sudden or violent physical efforts, frequent or long-continued sexual excitement, especially when not satisfied, and persistent cough and dyspnea. The marked preponderance on the left side is especially explained by anatomical differences: (1) The acuteness of the angle of junction of the left spermatic vein with the renal, (2) the greater length of the left vein, and (3) the relation of the left vein to the sigmoid flexure by which it may be easily pressed upon. The percentage of frequency is variously given but probably lies somewhere between 10 and 20 per cent. of all the young adults. The mental and reflex symptoms are perhaps the ones for which the patients most frequently seek assistance and care should be taken that an operation is not too readily recommended to a sexual neurasthenic with a slight varicocele, for the results may not be at all satisfactory. The three operations which he advises, each possessing advantages over the others in certain particular conditions are: Subcutaneous ligation, open scrotal ligation and suprapubic ligation. The first has the advantage of being done quickly, is bloodless, requires no cutting, and is simpler. The open scrotal operation has the advantage of being exact, also of allowing the resection of the veins and the change in the direction of the incision when suturing if it is desirable to shorten the scrotal sac. It is claimed to be unnecessarily severe and that there is less certainty of primary union. The suprapubic operation is advocated on account of the ease with which the veins may be reached at that point and the greater facility in securing asepsis. The open scrotal operation is considered the one of choice but either of the others may be properly selected. Palliative measures are, however, frequently entirely sufficient and should always be tried before more radical measures are advised. Besides relieving any possible cause which may be present, and toning up the general circulatory system, local applications of very hot or cold salt solutions night and morning with subsequent use of astringent lotions, together with the use of a properly fitting suspensory may be beneficial or even sufficient.

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SATURDAY, NOVEMBER 15, 1902.

A LESSON IN SANITATION.

NO MORE interesting story in the history of medicine has ever been told than that related by Major Gorgas, U.S.A., formerly Chief Surgeon of Havana under the United States authorities, with regard to the disappearance of yellow fever from that city. Everyone knows how the army medical department after the American occupation of Havana succeeded in reducing the death-rate of that city from 91.03 during 1898, the last year of the Spanish possession, to 22.11 for 1901, the last full year of American occupation. Eighteen hundred and ninety-eight was a war year and its death-rate was undoubtedly abnormally high, but the death-rate in Havana for ten years before the American occupation was nearly 45. During the last three months of United States rule, just before the management of affairs was handed over to the new Cuban government in April of the present year, the death-rate was scarcely more than 17, which is considerably lower than that of some of our own United States cities.

Notwithstanding the improvement in sanitation in Havana, however, the mortality from yellow fever, did not decrease for several years. There were over 130 deaths from the disease during 1898, over 100 deaths in 1899, and nearly 300 deaths in 1900. Old inhabitants of the city smiled knowingly and said that yellow fever rather liked sanitary surroundings. Some of them hinted that the new-fangled notions of the Americans would only prove fosterers of suitable breeding conditions for the awful scourge the Cubans knew so well. This was the state of affairs when it was resolved to put into practice the theory that yellow fever is a mosquito borne disease.

During the year 1900 yellow fever was prevalent particularly among members of the upper classes and some of the most intelligent members of the community were afflicted. Sanitation alone had evidently failed to lessen the danger from disease. Men who could be absolutely depended on to take every possible precaution known in order to avoid all ordinary means of infection, were stricken by the disease. Practically one-half of the members of the Governor-General's staff died from yellow fever, during this year. If anything were to be done, it had to be done at once and no expense should be spared.

A system of inspection was initiated by which within two hours after the report of a case of yellow fever the patient was thoroughly protected from mosquitoes by close netting. The whole house in which the patient lived was fumigated by burning pyrethrum powder and all the mosquitoes' bodies swept up and burned, because it was found that sometimes the insects were only rendered comatose and subsequently recovered. The houses in the immediate neighborhood were also fumigated in the same way. Besides this, all standing water whether in cisterns or vessels or pools was drained off, in order that it might not form a breeding place for the larvæ of the *Stegomyia fasciata*, the mosquito which is believed to carry yellow fever. Swamps that could not be drained were treated with petroleum.

The effect of these measures was very soon felt. The mosquito crusade was begun in February, 1901. During that month there were five deaths from yellow fever. In the preceding January there had been seven deaths from the disease. In March there was but one death. In April no deaths from yellow fever occurred and the same favorable state of affairs continued during May and June. In July there was one death from the disease and then after a month of freedom from the affection, a single other death from it in September. Since September, 1901, there has been no death from yellow fever contracted in Havana. This is indeed a triumph of sanitation—a landmark in the history of sanitary science.

There were only two places on this continent where yellow fever was endemic—Havana and

Rio Janeiro. While the disease occurred very frequently at Vera Cruz in Mexico and other towns, Bahia in Brazil or some of the Cuban seacoast cities, none of these places were entirely free from the disease at certain times except Havana and Rio Janeiro. Now one of these permanent foci of infection for other places has been taken out of the fell partnership and the method by which it has been accomplished will prove a lesson that the other, Rio Janeiro, will not long neglect. It is probably only a question of a comparatively short time when yellow fever will be a memory, a nightmare of dread in medical reminiscence but robbed of its terrors.

The army medical department is to be congratulated on the work it has accomplished. As we pointed out some time ago, this is only one of many things for which it deserves hearty tribute of praise. There is a lesson for the country in general in the matter, however, that physicians should not neglect to point out. The benefits that accrued to Havana are mainly due to the fact that the sanitary authorities were given a free hand and that the physician Governor-General not only did not hamper their work but stimulated and encouraged them to the limits of his power. Already the cost of the war in lives and treasure has been saved many times over by the sanitary improvements effected. If those who raise opposition to the introduction of sanitary regulations could only be made to understand how much they hamper the progress of a great humanitarian work there would soon be many causes for congratulation because of ameliorated hygienic conditions. If there were medical officials with ample authority, as in Cuba during the American occupation, then the obliteration of many physical evils might be expected here in the United States too. For one thing, much might be accomplished without undue delay for the improvement of the condition of the tuberculous poor and as a consequence of tuberculosis in the whole population. The examples of success of the army medical department, wherever it has been at work, should give renewed vigor to the movement for the establishment of a Department of Public Health whose head shall have a seat in the President's Cabinet and be given the power to extend and enforce sanitary regulations. No more important development of our government could be made at the present time than this. It is almost impossible to foresee the extent of hygienic benefit that might result therefrom. The yellow fever success could not have been anticipated two years ago, and without special government encouragement the problem might have remained unsolved for years.

There is food for earnest reflection and material for popular education in this bit of history that must not be allowed to fall into what, with apologies to our ex-President, has been well called innocuous desuetude.

THE CLINICAL CYTOLOGY OF TRANSUDATES AND EXUDATES.

TWENTY years have passed since Ehrlich first turned his attention to the study of the histology of pleuritic exudates. Almost simultaneously with the publication of Ehrlich's studies, appeared the observations of Quincke on the formed elements found in transuded liquids. But these investigations represented merely the vague adumbrations of a science which promised so little of real clinical value that for a long period it was allowed to rest almost unnoticed. The advent of lumbar puncture recalled to use a method of examination which originally had been applied to the contents of the pleural sac, and for a time it seemed likely that a new and important clinical art of cytodiagnosis might be founded upon the basis of numerous cytological studies.

During the past two or three years more than a hundred utterances on the subject of cytodiagnosis have appeared in France alone; two-thirds of this work deals with the normal and pathological cytology of the cerebrospinal fluid, while the remainder concerns itself with transudates and exudates arising from irritation of the pleura, the peritoneum, the pericardium and the serous linings of joints.

The highest expression of this so-called cytology is the series of formulæ intended to be applied to the diagnosis of pleurisies. A. Descos, who has critically appraised these formulæ as presented by Barjon and Cade and by other writers (*Revue de Méd.*, Oct. 10, 1902), has a high regard for their exactness and diagnostic value. The cytological examination of pleural contents for purposes of diagnosis and prognosis is not a common practice in this country, and there is at least sufficient evidence of its value to make its more frequent use advisable. Any general hospital possesses the material for these clinical studies. The differentiation of the conditions underlying pleurisy with effusion has puzzled every practitioner of wide experience and the aid of cytology will be more than welcome.

Classification of the cells found in the fluid obtained by lumbar puncture has led to the development of formulæ according to which some writers claim to be able to differentiate incipient tabes, general paresis and meningo-myelitis. In tuberculous meningitis the studies thus far made have given very conflicting results and no serious clinical value can be attached to them. On the other hand we have in cytology a means to distinguish true inflammation of the meninges from those lesser conditions of irritation which symptomatically simulate meningitis. Concerning effusions into the pericardium and peritoneum cytology has as yet no authoritative word to utter. Julliard has presented an elaborate series of inferences based upon cytological studies in hydrocele, but we fail to see their clinical importance. The examination of fluid collections within the articular cavities is an interesting rather than a profitable pursuit, although it is stated that subacute and afebrile rheumatic processes can be distinguished by this means from tuberculous arthritis. The chief result of this last-named branch of study has been to show the important rôle played by the degree of acuteness of the inflammatory process and to demonstrate the modifications resulting from puncture itself; these modifications might easily lead to erroneous conclusions in cases in which repeated examinations were made.

Discredit has been thrown on cytodiagnosis by the hasty generalizations of writers who alleged the existence of a law applicable to all serous membranes, according to which lymphocytes signified tuberculosis, polynuclear leucocytes acute inflammation and endothelial cells simple mechanical transudation. As a matter of fact, lymphocytes are not specific evidence of tuberculosis but signify as a rule merely a chronic, mild form of irritation whatever the nature of its origin. In any case of serous effusion, the cause remaining of the same kind, the cytological formula will change as the degree of irritation increases or decreases. But while intensity is a factor it is not the sole influence at work. A mistake was made by disregarding its potency while emphasizing that of specific causes; an error just as serious will be made if specificity be disregarded while studying degrees of intensity.

The ground has been broken in cytodiagnosis by investigators who have achieved through this work but small practical results and less glory. Further efforts will be more difficult, but in certain directions at least promise to yield practical results; we have indicated what these directions are.

EMERGENCY CASES AND CLERGYMEN.

WITHIN the past few months there have been several instances reported in the newspapers in which clergymen have felt that their ministrations were interfered with in cases of seriously injured persons by the refusal of physicians in charge of the patients to give either time or fitting opportunity for the exercise of spiritual functions. In the cases that have been given undesirable publicity the physicians have always been young men, usually hospital surgeons on ambulance cases. The complaints are manifestly occasioned by the thoughtless action of the overzealous young medical man, rather than by any deliberate discourtesy. It is lack of tact and proper fellow-feeling, and not want of reverence, that is to blame. It is a personal delinquency, not a professional offense, and must be set down to no deeper cause than youthful inexperience and the sense of importance that often takes possession of a young man when first asked to assume entire charge, if only for the moment, of serious cases. Of any real wish to hinder the exercise of spiritual ministrations there is little evidence. The modern physician, even though young, is of sufficiently broad culture not to obtrude any religious prejudices he may have, especially when a human life may be hanging in the balance and spiritual consolation may mean so much for the physical restfulness of the patient.

Occasionally, as most physicians have had opportunity to experience, it is the clergyman that is at fault in these cases. Time may be very precious in an accident case, and thoughtless young clergymen may tactlessly waste precious moments that would well serve for the prevention of serious developments. While there must always be opportunity for actual religious ministrations, if desired by the patient, there is seldom occasion for the giving of the verbal religious encouragement sometimes deemed necessary, and which in emergency cases the mere presence of the clergyman may replace, while the physician proceeds with the necessary details of treatment.

Where the two professional men meet in a spirit of true gentlemanly sympathy for the unfortunate sufferer there is no reason for even the slightest uncomfortableness in the exercise of their respective functions. If either is to yield

something of what he considers the duty of his position in such matters it should be the physician, unless this yielding would absolutely endanger the life of the patient or add seriously to the risk of subsequent complications. We say this with better assurance because we know the genus ambulance surgeon and realize that at times he is a little prone to assume an authority somewhat unbecoming his years and experience —or lack of it—but which only provokes a sympathetic smile unless it involves some derogation from that professional courtesy that we expect from the cultured graduate of the present day.

There was a time when it was the fad for physicians, and especially the younger ones, to pose as non-believers in religion. That time is past, and the great leaders of the profession are either men of sincere religious beliefs or are thorough respecters of the feelings of others in this eminently personal matter. To no one in our day can it seem that the spiritual side of things is a negligible factor in human life, and least of all can it so appear when the stimulating confidence begotten of spiritual consolation may prove a therapeutic element of great importance in a doubtful case; when indeed it may of itself be sufficient to swing the balance in favor of life.

ECHOES AND NEWS.

NEW YORK.

College of Physicians and Surgeons.—Dr. Herman Knapp of the Medical School has been appointed emeritus professor in ophthalmology by the university trustees.

Dr. Frederick S. Lee, professor of physiology at the College of Physicians and Surgeons, will deliver an address on Nov. 14, at the quarto-centennial exercises of the University of Colorado.

Improvements at Bellevue.—Work will begin in a few days on the remodeling of the old Bellevue Medical College building. The inside of the building will be radically altered, but the four walls, which have been up since 1861, will be left standing. The first floor will be made into a dispensary and reception room for visitors, the second into a lecture hall for nurses and the third and fourth into a dormitory section capable of housing 150 employes of Bellevue Hospital.

Resignation of Dr. G. T. Stewart.—Following the recent shake-up in Bellevue Hospital, in which George Taylor Stewart, former superintendent, was virtually deposed, his assistant, Michael J. Rickard, being installed in his office, that institution was cast into agitation yesterday by the announcement that Dr. Stewart had handed in his resignation to the Board of Trustees. The resignation will take effect on January 1. Dr. Brannan and the other trustees are now considering other changes which will affect the destinies of the institution and its employes. In this they are being counseled by Homer Folks, Commissioner of Charities.

Woman's Hospital.—The November meeting of the Hospital Guild of the New York Medical College and Hospital for Women was held last night at 68 West Sixty-sixth street, the home of Mrs. William Curtis Demorest, its president. It was announced that William Zeigler had offered to pay one-third of the Guild's floating indebtedness of $21,000 if the Guild can raise the remaining $14,000 by Jan. 1 next. Of that amount $5,000 has already been raised and last night four life members at $1,000 a year and six life members at $100 a year were elected. The Guild now has 400 members. The new hospital is to be opened at 17 and 19 West One Hundred and first street this month.

Campaign Against Smallpox.—The Board of Health has issued a circular to the doctors of the city urging them to cooperate with the Health Department in preventing a reappearance of smallpox this year and especially by seeing that their patients are properly vaccinated before winter sets in. The disease is more prevalent during the winter and spring months. In the circular the board also says it has been discovered that smallpox occurs in a majority of cases among persons who have not been re-vaccinated after a proper interval and not among those who have never been vaccinated. Every one should be vaccinated at least once in five years, the board holds.

Free Lectures on Tuberculosis.—The Committee on the Prevention of Tuberculosis has arranged a course of free public monthly lectures in the assembly hall of the United Charities Building, at Fourth Avenue and Twenty-second street, which will cover various aspects of the disease. The first lecture was given last week by Dr. J. H. Huddleston on "Germs of Consumption—What They Are and What They Do." Others of the course will be by Drs. Biggs, Janeway, Knopf, Trudeau, Jacobi and Bryant, and Secretary Devine of the Charity Organization Society. There will be in addition single lectures of similar purport delivered in various parts of the city such as have already proved of great value to mothers and settlement workers.

The Death of Dr. M. J. Asch.—At a stated meeting of the Medical Association of the Greater City of New York, held at the N. Y. Academy of Medicine Nov. 10, the following report was received and adopted.

Morris Joseph Asch, M.D., died at Irvington-on-Hudson, October 5, 1902, in his seventieth year. He was a native of Philadelphia, where he took his degree in arts at the University of Pennsylvania in 1852 and in medicine at Jefferson Medical College in 1855. Through the civil war he served with distinction on the staff of Gen. Sheridan. For upwards of 30 years, and until his retirement less than two years ago, he was engaged in active practice in New York, where he gained a large following and many friends. In 1872 he became a surgeon and afterwards a consultant at the New York Eye and Ear Infirmary, and he served in similar positions in the throat department of the Manhattan Eye and Ear Hospital of New York, from the year 1879.

For several years he held a professorship of laryngology at the New York Polyclinic. He was one of the original Fellows of the American Laryngological Association, and in 1892 received the well-deserved honor of election as its president. His contributions to literature were frequent and valuable, consisting for the most part of clinical reports gathered from his unusually wide experience.

He was a member of many social and scientific bodies, in all of which he won the friendship and esteem of a large circle.

By those most intimately associated with him in hospital and clinical work he will be remembered for his devotion to duty, his keenness in diagnosis, and his manipulative skill.

His chief title to fame with the profession at large rests upon his careful elaboration of an operation for the correction of deflections of the nasal septum, with which his name will always be connected. Whatever may be the general opinion of the Asch operation, whatever improvements and modifications it may hereafter undergo, the fact remains that he succeeded in grasping the principles which underlie the successful management of this obstinate deformity and in proposing certain technical details of marked value.

His charm of manner, his amiable disposition, and his kindness of heart combined to endear him to everyone with whom he came in contact, whether patient, friend or colleague. Those nearest to him will always recall his attractive personality. To the world his career and character will stand as models worthy of emulation.

(Signed) CHARLES H. KNIGHT,
H. HOLBROOK CURTIS,
HENRY FREEMAN WALKER, *Committee.*

The Medical Association of the Greater City of New York.—Report of Committee on the Death of Dr. Abel Mix Phelps.

Gentlemen: Your committee appointed to report on the death of our late Fellow and associate, Dr. Abel Mix Phelps, reports as follows:

Dr. Abel Mix Phelps, whose death occurred on Oct. 6, 1902, was born at Alburgh Springs, Vermont, Jan. 21, 1851, and obtained his medical degree in 1873 from the University of Michigan.

After practising a number of years at Chateaugay, N. Y., he spent some time abroad, devoting himself especially to orthopedic surgery. In 1885, shortly after his return to this country, he was called to the chair of Orthopedic Surgery in the University of Vermont. Later he occupied for a number of years the same chair in the University of New York. As a further recognition of his labors in this branch of surgery he was, in 1894, elected president of the American Orthopedic Association. In 1901 he became president of the Medical Society of the State of New York. At the time of his death he was Visiting Surgeon to the City Hospital, Blackwell's Island, and was Professor of Orthopedics in the New York Post-Graduate School.

Dr. Phelps was a man of enthusiasm and force, great originality, and firm convictions. Lucid in thought and expression, a bold and skilful operator, he was also a successful teacher and leader in his chosen field, operative orthopedics. Early recognized as a pioneer, his name will be held in honorable esteem wherever scientific orthopedics are practised.

Those who are associated with him more intimately knew the tender side of his nature. In a wider circle he will be best remembered as an honest and true friend.

(Signed) THOMAS E. SATTERTHWAITE,
ROBERT T. MORRIS,
REGINALD H. SAYRE,
Committee.

PHILADELPHIA.

Many Typhoid Cases in the City.—The health report for the week ending Nov. 8 shows the occurrence of 124 new cases of typhoid fever, the disease being in every ward but the Eleventh and Twelfth. This is 17 cases more than last week. Over 500 cases are now under treatment.

Health Board Deadlock Broken.—After seven months the deadlock in the organization of the Lebanon Board of Health has been broken by the resignation of Dr. E. H. Gingrich, as Health Officer, and W. L. Brunner as Secretary. They had claimed reelection and contested the eligibility of Dr. J. H. Mease as a member of the Board. Dr. J. H. Groh and E. L. Kreider are the new Health Officer and Secretary.

"What's in a Name?"—According to a local paper a Miss Death, daughter of an undertaker, was lately taken to the German Hospital suffering from appendicitis. She was operated upon by Dr. F. H. Dye and placed in charge of a day and a night nurse, the former being Miss Payne, the latter Miss Grone. In spite of this gruesome combination the patient is convalescing rapidly and will soon be discharged from the hospital.

Memorial to Dr. Hughes.—The fund for the erection of a memorial to the late Dr. Daniel E. Hughes, Chief Resident Physician of the Philadelphia Hospital, has reached $400 and been closed. A substantial part of the fund came from admirers of Dr. Hughes in his former home, Williamsport. An appropriate bronze tablet will be purchased with the fund and placed in the hospital.

New Remedy for Round Shoulders.—It is reported that a physician of Roxborough has during the past three months corrected five cases of round shoulders in a novel way. Noting that very fat men are not round shouldered he concluded that their straightness is due to the effort required to support their heavy abdomens. Accordingly he had a broad belt made and weighted it with lead at the front. This weight was increased gradually until one man was finally carrying twenty-five pounds. But his shoulders straightened. The method is not copyrighted.

Hospital Sites are Numerous.—The latest step in the removal of the municipal hospital and almshouse was taken last week when the chairman of council's committee introduced ten ordinances for the purchase of sites. This method was taken to dispose of the 65 offers of sites made to the committee during the summer. Mayor Ashbridge promises early action by councils in regard to selecting sites and beginning the pavilions for consumptives at the Philadelphia Hospital. When alterations are completed the 1,500 insane of the city who from lack of room are now in asylums up the State, will probably be brought here again where they can be cared for at less expense and will be nearer their friends.

Good Results at Rush Hospital Country Branch.—The country branch of the Rush Hospital for consumptives was closed Nov. 1 for the winter because of lack of funds to convert it into a winter sanitarium. In all, 18 patients were treated there during the summer and all but one showed marked improvement, the general results being most satisfactory. One patient remaining at the city branch is also seemingly cured, having increased in weight from 83 to 129 pounds under treatment.

School Dangers to be Discussed.—At a mass meeting soon to be held in the Thirty-fourth Ward under the auspices of the Business Men's Association will be given facts ascertained by an investigation into the condition of the schools in that ward. In the Hoffman Annex the rooms measure 30x14x8½ feet and in them are seated more than 60 children. Practically no ventilation is had on cold days. The investigation also disclosed the fact that the normal attendance for the city is 91 per cent., while for the Heston Annex the rate is 77 per cent., for the Hoffman Annex 79 per cent., and for the worst room in the Heston Annex 69 per cent. Resolutions to be offered will demand the renovation or immediate abandonment of the Heston Annex and the condemnation and destruction of the Hoffman annexes and the use of their lots for school yards.

Nurses Addressed by Dr. Mitchell.—The closing session of the Sixteenth Annual Council of the Guild of Saint Barnabas for Nurses, held here during the

past week, was marked by an address by Dr. S. Weir Mitchell. Dr. Mitchell confined his address almost entirely to the ethical training of the nurse and her demeanor toward patients. Among other things he said: "The character of the intelligence of the doctor is of less moment than that of the nurse. After the doctor prescribes he goes, but not so with the nurse. She remains, and often it becomes one long, tedious vigil, wearying to the nurse and patient alike. It is then that those qualities, that almost indescribable something that marks the refined and well-bred woman, are of vital import. The successful nurse should combine the qualities of religion and practical work, for with a good heart good manners go hand in hand, and goodness makes good manners easier of acquirement." He also spoke of the health of nurses and the need of outdoor exercise to give them the robust health so necessary in their work.

No Law Against Credulity.—At the inquest held to determine the cause of death of J. J. O'Brien, a patient at the Koch Lung Cure Institute, Dr. D. G. Knapfel, the head of the Institute, testified that credentials from New York allowed him to practise here on payment of a registration fee. He also said that they did not guarantee to cure consumption although 80 per cent. of their patients treated for tuberculosis, asthma, and bronchitis are cured. After hearing two of the 20 complainants who denounced the Institute, Coroner Dugan told the jury that the proprietors of the institute could not be held as they were qualified by law to practise. "There is no law against credulity," he said, "and it is not the business of the coroner's office to prevent people making fools of themselves." The Ledger, in commenting on the occurrence, states that the coroner's observation is true and that medical quacks find victims because so many people are waiting to be victimized. It is like the green goods or the gold brick game, but the medical quacks are criminals beyond the green goods swindlers because they play upon the misfortunes, sufferings and necessities of their victims. The law avenges those who are swindled in speculation, but those medically swindled have no protection from their own folly. The law says nothing to the insolent advertising of those who appeal to the credulity of the poor and suffering.

Consolidation of Medical Publications.—The announcement is made that the Therapeutic Monthly has been purchased by the Philadelphia Medical Publishing Company and will hereafter be incorporated with the Philadelphia Medical Journal. In view of this change the Journal will contain once a month a special therapeutic department that will embody all the essential features of the Therapeutic Monthly.

CHICAGO.

Rush Medical College to Become an Organic Part of the University of Chicago.—The trustees of Rush Medical College will endeavor to raise $1,000,000 by July 1, 1903, and as a result the well-known medical school will become an organic part of the University of Chicago. At present, Rush is affiliated with the University, but by the new arrangement it will become technically, as well as nominally, just as much a part of the University as any of the schools and colleges located on the Midway. The final action to this end was taken on the afternoon of Nov. 7, by the Rush Medical College board of trustees. At a special meeting of the University of Chicago trustees it was officially voted to receive Rush as an organic part of the University, provided the million was raised. The Rush trustees voted to make efforts to raise the sum, and if it is raised they will incorporate their college as a part of the University. It is expected that the school will expand, so that under the reorganization and with the great scientific equipment of the University at the command of the faculty, Rush will not only hold its prominent position of a training school for practitioners of medicine, but will also take front rank as a graduate medical school. Dr. Frank Billings, Dr. Nicholas Senn, and Dr. E. Fletcher Ingals have been strong advocates of the move. They have taken the ground that the medical education of the future must be in close touch with university work.

Cottage Plan for Consumptives.—Dr. John R. Neely, medical director at Dunning, favors the cottage plan for the care of those suffering from tuberculosis in its incipient stages. The success that has attended such trials has been so uniform that he believes such a project should be undertaken in Cook County. There are now about 150 cases at Dunning of marked tuberculosis. About three-fourths of these cases are hopeless. Of these beyond aid, there is nothing to do except to provide a comfortable hospital for them where they can be well cared for. For those who can be cured there should be a maximum of fresh air and sunshine, and intelligent medical attention and care. Of those who come to the institution in a curable state, he believes that 98 per cent. could be made well if the right treatment could be given.

Ruptured Tubal Pregnancy.—At a meeting of the Chicago Medical Society, held Nov. 5, Dr. Henry Banga reported a case of ruptured tubal pregnancy, and presented the specimen. The patient was twenty-four years old. From the absence of a tumor by vaginal examination, and the fact that the woman was ill for 39 hours, the author was led to believe that blood was escaping into the free abdominal cavity. He therefore advised immediate operation, which was consented to, and a laparotomy was done. The patient recovered. As a practical guide, the author said that if one made a diagnosis of internal hemorrhage and examined the patient and failed to find a hematoma or hematocele, he could be reasonably sure that hemorrhage was taking place. If, on the other hands, a few hours after the attack, or repeated examinations after the onset, one found a gradually increasing tumor which became harder and harder, he could be almost certain that the hemorrhage would cease of its own accord.

X-ray Tube Shields and Specula for Treating Cancer of the Rectum and Other Cavities.—Dr. J. R. Pennington read a paper with this title, and said that in treating cancer of the rectum with the X-ray he had encountered many difficulties. Growths in this region are very securely and completely surrounded and protected by heavy bones and thick healthy tissue. He exhibited a modification of the Caldwell tube. He demonstrated that the energy from an ordinary tube was more powerful at a distance of six or eight inches from the tissues treated than from Caldwell's tube when it is in almost direct contact with them.

Notes on Diverticula of the Male Bladder.—Dr. L. E. Schmidt read a paper on this subject. There is still some confusion in the nomenclature. It is necessary to distinguish between false and true diverticula. A false diverticulum is a closed cavity communicating with the bladder, whose walls are not formed by any parts of the bladder wall. For instance, an abscess cavity which perforates into the bladder or the hollow space of a tumor which communicates with the bladder through exulceration. True diverticula are sacculations of the bladder wall proper. They are either congenital or acquired. The congenital ones show all the constituents of the bladder in their walls, while acquired diverticula, if they become larger, as a rule, have a wall which is formed from mucosa and submucosa only. If a diverticulum originates in a part of the bladder which

is covered by serosa, peritoneum may be found as a third layer. Very shallow recesses in the bladder wall, which do not represent separate cavities may be called according to English "bladder cells." Acquired true diverticula are the consequence of "work" hypertrophy and trabeculization of the bladder. One of these, by trabecular encircled areas, gives way under the increased pressure and becomes more and more stretched and dilated, until it breaks through the muscular coat and protrudes, hernia-like into the abdominal cavity. The shape of the entrance and of the body of a diverticulum undergoes certain changes in the course of further development. The entrance is first rhomboidal, later on more rounded. The body of the diverticulum originally of the same diameter as its entrance, becomes more and more enlarged so that it acquired the so-called bottle-shape. Solutions injected into the bladder for treatment may occasionally be partially retained in a diverticulum and reappear at intervals after micturition is finished. The chronic retention and stagnation of urine in a diverticulum will lead to cystitis or to the precipitation of solids, so that indigenous stones may be found. A kidney stone caught in a diverticulum grows rapidly to a bladder calculus by the apposition of urinary salts from the stagnating, concentrated contents of the sacculation. Diverticula may easily become attached to inguinal or femoral hernias, thus complicating the symptoms and the eventual operation. If a diverticulum becomes attached to a pericystitic exudate, sharp pain at this particular point will be felt at the beginning of each micturition, the contracting bladder causing the diverticulum to pull at the pericystitic focus. The indication for choosing operation for stone in a diverticulum depends upon the possibility of dislodging the calculus. A dislodged concrement can be crushed, otherwise cystotomy has to be resorted to. The diagnosis of a diverticulum can be made with certainty only by the aid of the cystoscope. Some authors recommend a total resection of diverticula which give rise to serious symptoms.

Operative Dysmenorrhea.—Dr. G. Kolischer said that under the term dysmenorrhea are, as a rule, subsumed all conditions which cause extreme discomfort and pain immediately before and during menstruation. The term dysmenorrhea in a strict sense should be reserved only to these menstrual troubles which are due to certain nervous, nutritive, or mechanical changes in the uterus proper, and which are characterized by one leading symptom, the spasmodic painful contractions of the uterine body. Nervous and nutritive dysmenorrhea, the latter either due to a general anemia, or to hyperoplasia of the uterus, yields readily to appropriate treatment. Nervines and hydrotherapy in the first group; Thure Brandt's massage, resistance gymnastics, bicycle riding in the second group. Apostoli's electric treatment, although frequently successful, has decided disadvantages. It is not free from the dangers of subsequent infection and inflammation and necessitates in virginal patients the laceration of extreme dilatation of the hymen. Mechanic dysmenorrhea is based either on an abnormal tightness of the internal os, or the general narrowing of the cervical canal. In the latter cases the cervical tissue is, as a rule, very rigid. By these conditions the flow is partially retained in the uterine cavity, thus giving rise to painful contractions. Or the general narrowing of the cervical canal does not give space enough for the mucosa swelled up by the menstrual congestion so that the stretching of the cervix adds to the discomfort. The anteflexion so generally accused as a cause of mechanical dysmenorrhea has nothing at all to do with this condition. Mechanical dysmenorrhea is observed equally frequent in straight or retroflected uteri while even extreme anteflexion, provided cervix and its mucosa are normal, does not cause dysmenorrhea. The diagnosis of mechanical obstruction is made by sounding, and occasionally by inspecting the cervix during the early stages of menstruation. In some cases we see the swollen mucosa protrude from the external os. Dilation of the cervix and incision of the junction between cervix and body have, if any at all, temporary effect only. It is necessary to resort to plastic operations in order to secure a certain and permanent relief. The operations devised by Defontaine, Snegiereff, Alexanderoff and others do not seem to answer this demand. Author employs a method which consists in splitting open the cervix by bilateral incisions and excision of a wedge-shaped piece of tissue out of either side. In case of necessity this excision can be carried through around the whole circumference of the cervical canal. The intision wounds are afterwards closed by sutures. In 47 cases collected in the last seven years the result was in all but one case absolutely perfect and up to date, no relapse has been observed. The last mentioned case became in some way or other infected so that inflammatory and edematous conditions of the concerned parts still prevail, thus causing, up to this time, absolute failure, so far as relief of the dysmenorrhea is concerned. In three of the operated cases, pregnancy and smooth confinement followed the operation after two, five, and six years respectively, of matrimonial sterility. The author restricts the operation to properly selected cases of mechanical dysmenorrhea after all the other bloodless methods have been tried and failed. The hymen should only be destroyed by the surgeon after the patient has been fully made to understand the importance of this step.

Massage and Gymnastics in Gynecology.—The author of this paper, Dr. George Rubin, pointed out the indications and contraindications of gynecological massage and gymnastics. He said this form of massage was indicated, first, as a means of diagnosis, and, second, as a means of treatment. In the first, massage alone is necessary, but in the second massage and gymnastics, or gymnastics alone, ought to be employed. Massage should not be administered in acute inflammatory conditions, for in such cases rest is essential; but in subacute or chronic inflammations it often produces astonishingly good results. Massage is contraindicated in carcinoma, sarcoma, tuberculosis, abscess, and cysts of the genital organs. In most instances where massage is contraindicated and radical treatment is refused, gymnastics alone will be beneficial as a palliative by diverting the circulation from the affected parts and by tending to improve the general system. Among the disorders where gynecological kinesitherapy does the most good are displacements of the uterus. It stimulates the muscle fibers of the stretched ligaments to contraction and improves the nutrition of the entire suspensory apparatus of the uterus. It works well in flexions, which are usually due to atony of the uterine musculature, by improving the circulation and toning up the muscle fibers.

Technic.—The technic in gynecological kinesitherapy is very simple. No specially devised instruments or apparatus are necessary. All one needs is a bench, a stool and two hands. The bench ought to be about five or six feet long, 16 inches high, and about 24 inches wide. It is better to have it slightly padded and with a head rest. The stool ought to be of the same height as the bench. The massage is usually preceded and followed by certain gymnastic movements. The movements to begin with are flexion and extension of the arms. The patient sits on the corner of the bench, head upright, spine in full extension, and chest thrown forward. The knees are widely separated. The arms are up and forward, and the hands of the patient are held by the op-

erator, palm to palm, his fingers around the patient's wrist and vice versa. The operator stands on the stool, one foot forward and facing the patient; the patient is now directed to flex her forearms on her arms, and to carry her elbows outward as much as possible. Flexion and extension ought to be performed with slight resistance, in the former by the operator, and in the latter by the patient. These movements are repeated four or five times. The flexion coincides with expiration and extension with inspiration. These movements and abduction of the thighs are the most important in gynecological kinesitherapy, on account of their decongesting effect on the pelvic organs. It should be omitted in the first two or three days of menstruation, except in menorrhagia, in which condition it is highly beneficial.

Massage.—This is executed bimanually, one or two fingers being in the vagina (the French masseures use the index finger alone, while the Germans introduce two fingers), the pulp of the finger, or fingers, is lightly pressed against the cervix, as near to the isthmus as possible. In displacements or flexion of the uterus, it is well for the operator to try and correct the position first and steady it in that position by the left hand. Where there are no adhesions, this is easily accomplished, and in the other cases it ought to be brought as near the normal position as possible. The right hand is placed on the abdomen, and after obtaining a complete relaxation of the abdominal wall, the massage is commenced and may be performed by circular friction, stroking or vibrations. Pressure should be avoided. The affected organs should not be massaged directly, but around them. Direct massage is indicated in subinvolution or in flaccidity of the uterine musculature itself. In nearly all other conditions the indirect massage should be given. This treatment should last from two to four minutes only, and should be done with a very delicate touch. The position of the patient should be the same as for an abdominal exploration, with the thighs flexed and separated, so as to permit a maximum amount of relaxation of the abdominal wall. The pelvis should be somewhat raised, which is easily accomplished by having the patient place her fists under the seat. The operator is seated on the stool to the left of the patient, leaning forward and resting his left elbow on his left knee, thus giving him more freedom to manipulate the cervix with his finger. The last part of this treatment, and not the least, is the abduction of the thighs which is performed in the following manner: The patient's head and shoulders are supported by a pillow, or otherwise, the legs flexed at a right angle, the abdomen, pelvis and thorax are raised so that they will form a straight line when looking from the knees down to the shoulders. The patient is then told to spread apart her legs while the operator resists slightly; then they are brought together by the operator while the patient resists. This form of gymnastics has a decided influence on the muscles forming the floor of the perineum. These movements may be repeated about 10 times, if the patient is not debilitated. The essayist spoke of the objections to the Thure Brandt method, saying that one of the principal drawbacks of it is its slowness in obtaining results. It often takes many weeks or months to benefit or cure a patient by this method, and it is therefore unpopular with the poorer classes. The author reported 12 cases in which he had resorted to the methods detailed, and although the results are far from being remarkable, the cases demonstrate along with reports of others the usefulness of the Brandt method in a certain class of gynecological cases. He believes that if the Brandt method is executed by the physician himself, or by one who has been especially trained for it, but always under the eye of the physician, then the value of this method in certain cases can hardly be disputed.

Report of the Committee on Medical Defense.—The Committee on Defense made the following report to the Chicago Medical Society. 1. That they believe that assistance in defending damage suits and probably aid in other legal matters is desired by the membership of the Society. 2. The experiences of the British Society, the New York County Association, and of the New York State Medical Association and the Philadelphia Medical Society, together with information from various sources that they have been able to gather together, leads them to believe that a feasible plan of aid for defending damage suits can be devised for the Chicago Medical Society. 3. They would recommend to the society: (*a*) That a fund for this purpose be established, and that $1.00 of each member's annual due be placed in this fund; (*b*) that a committee of five, known as the Medico-Legal Committee, be elected by the society; (*c*) that this be one of the standing committees of the society; (*d*) that the Committee on Revision of the constitution be requested to take note of this action in arranging the new constitution; (*e*) that this committee be empowered to employ an attorney or attorneys on such a basis, and to do such legal work for the society as seems desirable; (*f*) that nothing in this resolution or in any act of this committee shall or can bind the society to contract expense in excess of a sum represented by $1.00 from each annual due paid; (*g*) that they give notice of a motion providing for the setting apart of such funds; (*h*) that the society should recommend to the Medico-Legal Committee that an attorney be employed to care for suits against members up to the time of going into court, without any expense to the members, but that for the court expense of members the society is not to be held liable, provided that they also recommend to the committee that some arrangement be made with the lawyers for the defense in court of the members of this society, said expense to be borne by the member or members involved; (*i*) they recommend that this committee, in this work, cooperate with the present Medico-Legal Society, and affiliated societies of the Chicago Medical Society; (*j*) that the above recommendations to the standing Medico-Legal Committee are advisory, and are not mandatory.

CANADA.

Victorian Order of Nurses to be Revived in Halifax.—A few years ago a branch of the Victorian Order of Nurses was organized in Halifax by the Countess of Aberdeen, but she had no sooner left the shores of Canada when the branch was abandoned and the nurses dismissed. Physicians doing work among the poorer classes in Halifax have felt the need of these nurses, so a number of the benevolent ladies of that city, realizing the need of better nursing among the poor, have resolved on starting the Order anew.

Sanatorium for Consumptives in Nova Scotia.—The government of the Province of Nova Scotia is asking for tenders for the erection of a wooden two-story building with 115 feet frontage for the purposes of a consumption sanatorium. The new building is to be located at Kentville in King's County, a situation which is said to be a most suitable one for the treatment of tuberculosis. When completed the building will have accommodation for 50 patients. It will be constructed on the lines of all modern improvements, and will have a resident medical officer in charge.

Halifax Medical College.—The number of students enrolled this year at the Halifax Medical College is larger than for any other previous year. The building has been recently remodeled and new class-rooms added, and a well-equipped laboratory has been built in the main building. Dr. Halliday who has occupied the chair of pathology only for a short time has been

compelled owing to ill health to pass the winter in Colorado. In his absence this department will be conducted by Dr. Campbell.

Scarlet Fever Serum Discovered.—Dr. G. A. Charlton, Rockefeller Fellow of Pathology at McGill University, Montreal, claims to have discovered a serum for the treatment of scarlet fever. In the current number of the Montreal Medical Journal the details of the treatment are given along with a report of fifteen cases treated there with this serum. Of the 15 cases which were of a severe type, 13 made prompt recoveries almost free from complications. Of the two patients who died, one was moribund on admission to the hospital, and the other contracted diphtheria. The results produced by the serum are seen in the rapid abatement of the fever, absence or marked diminution of suppuration in the middle ear, and rapid convalescence of the patient.

Canadian Scientific Literature to be Catalogued.—At a conference of scientific workers held at London in 1896, it was decided to establish an annual international catalogue to be published yearly on scientific work. The authorities of McGill and Toronto University are cooperating in the matter and the following gentlemen have been appointed to look after the cataloguing of Canadian scientific publications: Pharmacology, experimental pathology and bacteriology, Professor J. George Adami; botany, Professor Penhallow of McGill; anatomy, Professor Primrose of Toronto University; physiology, Professor A. B. MacCallum of the same institution.

Notre Dame Hospital, Montreal.—At the annual meeting of the Board of Governors of the Notre Dame Hospital, Montreal, held a few days ago, it was announced that next spring the erection of a new hospital building would be proceeded with. Dr. E. P. Lachapelle was reelected medical superintendent, and presented the annual medical report for the past official year. It showed that during the 12 months 2,132 patients had been treated, as against 2,200 for the previous year. Of this number 1,285 were men and the balance women. The results of treatment were satisfactory. Of the total number, 1,813 were discharged cured or improved, and only 185 were discharged as unimproved. Forty-five wounded were brought in either dying or dead, and 91 died in the wards during the year. This makes a percentage mortality of 6.10 as against 6.09 for the previous 12 months. In the out-door departments there were 18,315 consultations.

Reporting Cases of Tuberculosis.—The Board of Health of Hamilton, Ontario, is considering a by-law providing for the reporting of all cases of tuberculosis occurring in that city to the medical health officer. The by-law is recommended by the medical health officer himself, the Hamilton Medical Society and the mayor of the city. Another by-law was passed recommending the establishing in the City Hall of a medical laboratory.

The Bubonic Plague Being Kept Out of Canada.—It is owing to the rigid quarantine system of Canada, according to Dr. Montizambert, the Director-General of Health for Canada, that the plague has never appeared on the shores of this country. At the William Head quarantine station on Vancouver Island, British Columbia, no case has ever appeared. Then the Canadian Pacific steamship officials are very particular in their inspection of vessels and the boarding of passengers at Hongkong and other oriental ports. Dr. Montizambert has had the staff of inspectors along the boundary line of British Columbia withdrawn owing to the great abatement of the smallpox epidemic in the Western States.

GENERAL.

Dr. Loeb Goes to San Francisco.—Dr. Jacques Loeb of Chicago goes to the University of California and takes the new chair of physiology.

Women Physicians in Paris.—Opposition to women doctors in Paris is still very great, it is said. She must be a courageous woman who finishes the course of study undeterred by insults and rude treatment from the men students. Since the first diploma was granted a woman, less than 20 years ago, 57 women have finished the required course, and are practising in Paris. Two hold official appointments, and the others have good patronage. Nearly all are of Rumanian or Russian birth.

Hospital for Lepers in Russia.—The Russian Society for the Suppression of Leprosy has recently erected a sanatorium for lepers in St. Petersburg, having accommodation for 95 patients. The Society receives an annual allowance from the local government, conditional upon its care for all lepers found in the city hospitals.

International Otological Congress.—This Congress will take place in 1904 instead of 1902 as originally planned. The date of the Congress has been postponed on account of the International Medical Congress to be held at Madrid in April next.

Course in Colonial Medicine in Paris.—A course of instruction in tropical diseases covering a period of two months is offered by the Paris Faculty of Medicine. The course will embrace hematological and bacteriological technic, parisitology, tropical ophthalmology, surgery, pathology, hygiene and affections of the skin.

Cancer in Germany.—A recent investigation of this subject has brought out the following facts: Cancer is most prevalent in northern Bavaria. Up to sixty years, the disease is most frequent in women; at this age it occurs with equal frequency in both sexes. At seventy, there is again a slight increase in women. Cancer of the stomach is most frequent in men (413 in 1,000). In women, cancer of the uterus occurs in the proportion of 270 in 1,000; and mammary carcinoma, 243 in 1,000. In both sexes are found with decreasing frequency in the order named: cutaneous cancer, cancer of the rectum, throat and liver. The lungs and kidneys are least frequently the site of primary carcinomatous infection.

Ninth International Congress Against Alcoholism.—This congress will be held in Bremen, April 14 to 19, 1903.

Another Virchow Anecdote.—M. Loeh, of Berlin, is said to be responsible for the following story: The scientist Jüngken having sent to Virchow a pathological specimen, for the purpose of having his diagnosis confirmed, the latter at once discovered that a great error had been made as to the character of the specimen, with the result that an unnecessary operation had been performed. From a sense of delicacy, Virchow sent word, in answer to Jüngken's inquiry concerning it, that the specimen had not yet been examined. This statement was made to repeated inquiries, till Jüngken's patience was exhausted; and finally, upon calling at the laboratory and receiving the same reply from the assistant, he exclaimed: "Since my colleague Virchow has gone into politics, he is lost to science!"

Ohio Hospital for Epileptics.—The staff of the Ohio Hospital for Epileptics entertained the Gallia County Medical Society at its regular meeting, Nov. 6, in the Pathological Laboratory of the Hospital. The following program was offered, together with an exhibition of the patients referred to, and with the appropriate practical laboratory demonstrations: A Case

of Epilepsy and Hemiplegia, presumably of Syphilitic Origin, Dr. H. S. Allen; A Case of Chronic Lead Poisoning, with remarks on Saturnine Epilepsy, Dr. W. C. Gill; Remarks on Hypernephroma or Adrenal Tumor of the Kidney. A Survey of Recent Laboratory Methods for the Diagnosis of Hydrophobia, Dr. A. P. Ohlmacher; Demonstration of the Widal and Diazo Reactions, Dr. T. L. Chadbourne. The prevalence of typhoid fever in an epidemic form in Gallipolis was the topic of an animated discussion following Dr. Chadbourne's demonstration.

The Average Income of Medical Men in Paris.—In Paris there are said to be 2,600 medical practitioners; of these, 40 have a gross income of from £8,000 to £12,000, 50 of £4,000, 50 from £2,000 to £4,000, 200 from £1,200 to £2,000, 200 from £800 to £1,200, and 1,700 earn on an average £145 a year. In the whole of France there are 1,600 medical men who gain on an average of £110 a year gross.

Trip to the International Medical Congress at Madrid in April, 1903.—As a large number of physicians throughout the country are planning to attend the International Medical Congress to be held at Madrid in April, 1903, special arrangements have been made as regards terms, etc., for a party of physicians from the Eastern States. The trip from New York and return will require about one month. Physicians and members of their families who join this party will be entitled to the special rate of $263.00 for the round trip, including first-class passage on the steamer and railway, hotel accommodations for fourteen days in Spain, including room, meals, all handling of baggage, special interpreter, and fees. The trip will be via Gibraltar, Cordova, to Madrid. Side trips to interesting parts of Spain can be arranged, and also returns by other routes, so as to enable those who desire to visit other parts of the continent. Physicians living in the Eastern and Middle States, who desire information concerning this party, with a view of joining it, can communicate with Dr. Ramon Guiteras, 75 West Fifty-fifth street, New York City. Subscriptions (twenty-five francs) must be paid before the opening of the Congress to the General Secretary, Faculty of Medicine, Madrid, and members should on paying the subscription state the section or sections to which they wish to belong. The Spanish Committee of Entertainment announces that the daily charge per person for lodging, service, light and three meals is in hotels from thirteen to thirty-five francs and in private houses from nine to twenty-two francs. These sums include transportation from the station to the lodging and from the lodging to the station. As it is expected that Madrid will be crowded, those who are to attend the Congress are advised to apply for rooms as soon as possible to the Bureau des Logements, Faculté de Medicine, Madrid. Blank forms for these applications may be obtained on request from the Secretary of the American Committee. The Spanish Committee on Transportation makes no provision for trans-Atlantic travel. Their arrangements are made for receiving visitors at the port of entry and for transportation to Madrid. The French and Spanish railroads have granted delegates a general reduction of 50 per cent. on the fares. In the United States the Trans-Continental Passenger Association advises delegates to use the regular nine months' rate from Pacific points to Missouri River points. A. Jacobi, M.D., Chairman; John H. Huddleston, M.D., Secretary, 126 West Eighty-fifth street, New York City.

The American Roentgen Ray Society.—The third annual meeting of the American Roentgen Ray Society will be held in Chicago, December 10 and 11. The sessions of the society, as well as the exhibits, will be held in the Sherman House, Randolph and Clark streets. Owing to the fact that papers which are to be read at this meeting have to be submitted to the executive committee for endorsement before being placed on the program, it is found impossible this year to issue a preliminary program, but assurance is given that the names which will appear on the program are of the best X-ray workers in the country and that the matter will be unexceptionable. It is earnestly urged that those who recognize the importance of the X-ray, for both diagnostic and therapeutic purposes, will contribute to the success of the meeting by their presence. A one and one-third rate fare has already been granted by the Central Passenger Association, the Eastern Passenger Association, the Western Association, and the Southern Passenger Association, provided that 100 persons buy tickets on this plan. Many more than this number are expected. A charge of 25 cents will be made for viseing certificates by the railroad representative. Owing to the very full program of about 20 excellent papers which have been secured, the convention will be called to order promptly at 9.30 A.M., December 10.

A Dangerous Swindler.—For nearly a year past, many of the doctors and dentists of this country have been victimized by a very clever swindler who has passed under several aliases among them, R. G. Stearns, R. L. Nelson, and others. He claims to represent The Success Company, publishers of the Success magazine, and takes orders for numerous magazines comprised in the Success Clubbing Offers. He works very rapidly, jumping from town to town, and always among doctors and dentists. All the money he obtains is appropriated, and the magazines are never ordered or received. Every effort has been made by the Success Company to apprehend this swindler, but so far without success. The Success Company notifies all doctors and dentists that its representatives always bear a special dated card of introduction, and to patronize no others. It also offers a reward of $50.00 for any information which will lead to the apprehension of this swindler. He is described as follows: From 23 to 25 years old; 5 ft. 9 in. in height; medium build; weight about 150 lbs.; dark hair (almost black) of medium length, very curly about the temples; dark gray eyes (almost hazel); rather sallow complexion, with scattered dark brown freckles; face unusually round for man of so light build; clothes not shabby, but far from new, and much worn. Black coat and vest, gray trousers (hard-twisted goods), with small stripe; black derby hat, much worn; old style turndown collar, with made tie. General untidy appearance for a man in the soliciting business.

Obituary.—Edgar Pumphrey Cook, eldest son of Dr. William J. Cook and Drusilla Pumphrey Cook, was born in Wellsburg, West Virginia, May 2, 1833, and died in Mendota, Ill., Oct. 31, 1902. His father was a graduate in medicine of the University of Maryland in the class of 1826 and his earliest associations were with the profession which he afterward chose for his life-work. His early education was obtained in the common schools of Ohio, supplemented by two years' attendance at Jefferson Academy, located at Jefferson, Ohio. At the age of eighteen he entered the Cleveland Medical College, now the medical department of the Western Reserve University. In the interval between the annual courses of lectures he taught school. He was graduated doctor of medicine in the spring of 1854, being the youngest member of his class and himself a few weeks under twenty-one years of age. Even as a medical student he became convinced that the existing course of study was too short by at least two

years to properly equip one for the practice of medicine and as early as 1854 he placed five years as the proper minimum of time. He always stood for the best possible education of the man or woman who chooses medicine as a vocation. In December, 1855, called to Mendota, from Ohio, by the serious illness of his father who, together with his brothers William, David and John, had come west in the previous year, he began the practice of medicine in the place which was to be the scene of his life work. His father, Dr. W. J. Cook, died in Mendota in 1871.

During the Civil War he responded to the call of Gov. Yates, took the examination at Springfield and was appointed a surgeon in the service of the State of Illinois. Just after the battle of Shiloh he was ordered to the field near Corinth, Miss., and for six weeks was surgeon in charge of a regiment of Illinois Volunteers. From the first of his medical career Dr. Cook identified himself with the general interests of his profession. He early joined the Illinois State Medical Society and was always active in its affairs. In 1879 he was elected president. At the time of his death he was chairman of the judicial council of the State society. He was one of the early presidents of the LaSalle County Medical Society, twice president of the North Central Illinois Medical Association and a member of the American Medical Association, Association of Railway Surgeons, the American Public Health Association, and other medical societies. He was an honorary member of the Physicians' Club of Chicago, was a delegate to the Ninth International Medical Congress in Washington in 1887 and again in 1890 to the Tenth International Medical Congress in Berlin, Germany.

First of all, Dr. Cook was a physician. He was an enthusiast in his profession to the day of his death. He was one of the earlier group of Illinois physicians. He was always progressive and, although a general practitioner in a small country town, it was his constant endeavor to keep abreast with the advances in medical science. His attention was particularly attracted to the surgical aspects of medical practice. While still a young physician he performed the first successful laryngotomy for tumor of the larynx performed in the West, and also one of the early operations for ectopic gestation successfully made in this country. He was for many years the local surgeon of the Illinois Central and Burlington railroads. His acquaintance in his profession was unusually wide, and he took great delight in the professional friends he had made in his nearly half century of active medical practice.

In March, 1900, while returning at night from a consultation visit in a neighboring town, Dr. Cook was stricken on the train with an attack of angina pectoris. He was forced to abandon at once the active duties of his profession. His health gradually improved, and although he was never again able to resume his work as a physician, the last two years of his life were devoted to many interests, less arduous in their demands but equally important in his view.

His death was due to a sudden attack of angina pectoris, and although not entirely unexpected by those familiar with his condition, it came as a severe shock to the community and all who knew him.

Dr. Cook has been a subscriber to the MEDICAL NEWS since 1854.

Dr. Oscar Cole Stout died at Syracuse last week at the age of fifty-nine years. He was a specialist in intestinal diseases. He was the son of S. V. W. Stout, formerly sheriff of Wayne county and for twenty years justice of the peace. Dr. Stout practised several years in Lyons.

Assistant Surgeon Walter E. Griffin of the navy died on Tuesday at the Cavite naval station, Philippine Islands. He had been in the service only eight months, having been appointed from Michigan on Feb. 20. Dr. Griffin went to the Philippines in April.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, November 1.

THE SOCIAL POSITION OF THE MEDICAL PROFESSION—A MEDICAL COSTUME—ST. LUKE'S GUILD—AN INVASION OF AMERICAN QUACKS—CHARCOT ON HYPNOTISM.

IN an address delivered at the opening of the Medical School of the University College, Bristol, last week, Sir Victor Horsley, speaking of the motives which induced people to enter the profession, said that many did so because it was considered a respectable one. These persons, however, he went on to say, did not take into account the social conditions under which they would have to work. The public, he thought, did not appreciate the fact that the profession sought to purge its ranks of evil-doers and even the government, as represented by Mr. Chamberlain, had an altogether erroneous notion of the functions of the General Medical Council. The fact undoubtedly is that nobody either in or out of the profession, with the exception of Sir Victor himself and a few other members of that august but ineffective body, knows or cares much about it. To the outside its main function appears to be to provide opportunities for gentlemen eager to find a vent for their views on medical education, and other matters more or less directly concerning the profession. Its debates are usually stale, flat and unprofitable—except to the members, each of whom receives five guineas a day during the session. This small but easily earned increment naturally begets a tolerance of long-winded oratory as the system still in force among general practitioners here of dispensing their own medicines fosters a belief in the efficacy of drugs. Medicine in this country is counted as a trade, as may be gathered from the utterances of Judges on the Bench, and from classified street directories, where the doctor is placed not only with the chemist and the undertaker, who may perhaps be looked upon as his natural associates, but with the butcher and the grocer. A curious proof of the light in which the profession is regarded by the aristocracy is that among those of that class who are really good-mannered it is not thought "good form" to address a physician as "Doctor." This custom has nothing to do with the profession or otherwise of the degree of M.D. It really is based on a courteous desire not to remind the physician of the fact that he is *de facto* a tradesman. An interesting illustration of the social status of the medical practitioner is afforded by the following advertisement which appeared not long ago in a provincial newspaper:

> A Nobleman, traveling abroad, will be glad to hear of a fully-qualified Medical Man to accompany him, who is an expert in passing a bougie into the middle ear, and the treatment of ingrowing toe-nails; terms, food and out of pockets; an M.D. preferred; evening dress and Church of England.—Address, &c.

The noble invalid evidently took it for granted that "food and out of pockets" would be a sufficient inducement to a Doctor of Medicine to minister to his ear diseased. And it is likely enough that he was right, for such is the glamor of an "aristocratic connection," however humble, among the simple natives of these islands that the fact that a man had passed a bougie into a nobleman's middle ear and treated his ingrowing toe-nails, would give him a prestige in the eyes of commoners which would be highly useful to him in practice.

It is probably a desire to emphasize their position as members of a learned profession above the level of "trade" that makes many of our doctors anxious to wear a costume that still proclaims their rank to all beholders. It has been suggested that the College of Surgeons should grant its members the privilege of wearing a gown, but so far the college has been content to leave this important question untouched. As a matter of fact, provided they cover their nakedness and do not wear a uniform officially recognized as denoting membership of a Crown service, doctors may wear any fancy dress they please. In the old days a rigid custom prescribed to all practitioners of the art of healing a habit of funeral black, and physicians in the special sense of the term were furthermore expected to don a full-bottomed wig, and to carry a gold-headed cane. Nowadays the frock coat is the sole relic of the past solemnity of attire, and even that is not strictly adhered to by those who feel themselves in a position to defy the tyranny of custom. I have known a very distinguished physician who habitually saw his patients in a velveteen jacket. But even he so far obeyed the rubric that he never went out on his professional rounds except in a frock coat. Some general practitioners of an older generation still dress themselves in black, shining broadcloth, with a white choker round the neck—a garb now generally regarded as peculiar to Nonconformist clergymen and undertakers. There is a considerable section of the profession which gladly takes any opportunity of arraying itself in academic costume.

One of these chances comes to them on St. Luke's day. There is a medical guild under the patronage of the "beloved physician" which on his feast day, October 18, or as near as it may be, goes solemnly to St. Paul's Cathedral to attend a special service. On these occasions the members are vested in robes indicative of their degrees and the universities from which they obtained them. From the man-millinery point of view the effect is not unpleasing, for there is a great variety of color and fashion, ranging from a plain black gown to gorgeous robes which give the wearer the aspect of a macaw. The service this year was held on October 22 when the Bishop of Kensington preached a sermon, the gist of which was that for the difficulties and problems of human life there was no solution but in religion. He said the medical and the clerical life had much in common, for both preached a gospel of health, relief and of restitution. The doctors walked in procession up the nave, and the musical part of the service was rendered by a choir of 250 voices while the tones of the grand organ were reinforced by silver trumpets.

We are at present suffering from an invasion of American quackery beside the tropical luxuriance of which our own native growth is, I am bound to admit, but a sickly weed. The daily papers of the baser sort are full of the advertisements of "Dr. X. La Motte Sage" describing himself as a noted scientist who donates £5,000, to be used for the publication and free distribution of a valuable work on personal magnetism and hypnotic influence; and of "Professor Thomas F. Adkin, President of the Institute of Physicians and Surgeons," discoverer of the Vitaopathic treatment, etc., etc. The list of "noted scientists" who have discovered the secret of perpetual health might be extended indefinitely. I only mention these things as another example of the truth of Mr. Carnegie's statement that British Commerce is being absorbed by American enterprise. Already the large majority of the new remedies warranted to heal every ill that flesh is heir to, from corns to cancer, which are offered by their philanthropic inventors to the confiding British public are of American origin.

With regard to hypnotism, of the kind that claims to be legitimate, it is still looked upon with doubt and suspicion by the great body of the profession in this country. The British Medical Association was induced some years ago to appoint a committee for the investigation of its effects in medical practice. The committee, which was a small one, was controlled by one of its members, an ardent hypnotist, and sent in a report in favor of hypnotism; the Council however refused to accept it. There the matter remains as regards anything that can be called an official recognition. But it is practised by a few physicians, the most noted being Dr. Milne Bramwell, who has from time to time published his results through the proper professional channels and whose honesty is unchallenged. The general opinion, however, is that hypnotism is simply a modern development of mesmerism, without the tub, the rods and the other suggestive apparatus with which Anton Mesmer deluded so many people—himself perhaps among them—in Paris in the latter half of the eighteenth century.

Now, as then, it is among hysterical women and neurotic men that hypnotism finds its subjects. Of the cause which produces the morbid sleep which we call hypnotic, and of its nature, we know nothing. Of its practical applications some knowledge has been gained, but it is by no means certain that this knowledge was worth gaining. Most of our physicians would probably agree with the opinions expressed in the following unpublished letter written by Charcot only a year or two before his death. Having been invited by the editor of a leading English medical journal to write something on the subject, the great neurologist replied:

"I see absolutely nothing that I can say about it. *In certain individuals hypnotism may be utilized for surgery* by producing anesthesia, and also sometimes *for confinements.* But *special subjects* are required. Therefore there is nothing general, nothing very practical about it. I am not disposed at this time to say anything about hypnotism. Ten years ago I opened as Braid had done in 1841 the *box of Pandora.* But owing to want of method and of judicial temper my successors are now going astray. I intend to keep quiet and to wait till the mental excitement of to-day has subsided."*

RECEPTION TO DRS. WOOD AND KEEN.

ON the evening of the 6th inst. there was a notable gathering of physicians of Philadelphia and the neighboring cities to do honor to these two distinguished physicians on their return from a prolonged absence in Europe.

Dr. Musser was in the chair, and, in addition to some 120 Philadelphia physicians, there were from New York Drs. Jacobi and Coley; from Boston Drs. J. Collins Warren and Maurice Richardson; from Baltimore Drs. Welch, Osler, Tiffany, Halsted, Kelly, Brush, Finney and Cushing, and from Washington Drs. Sternberg, Fletcher and Yarrow.

In proposing the health of Dr. Wood, Dr. Welch referred to his experimental work, particularly his study of fever, which he characterized as one of the most important contributions to scientific medicine made by an American physician. He eulogized the energetic way in which Dr. Wood had, by his vigorous writings, supported scientific medicine and methods.

Dr. Wood in reply made one of the most eloquent

* The words in italics are underlined in the manuscript.

and feeling addresses ever listened to. Many had heard Dr. Wood in his best moods, but on this occasion, as might have been expected, he outdid all previous efforts. He spoke of the delights of recovery from his long illness, and of the practical lessons which suffering teaches. He referred in a touching way to the old masters in Philadelphia who had one by one dropped away as the years passed.

Dr. Coley, of New York, proposed the health of Dr. Keen, and referred to his numerous and important contributions to practical surgery.

In his reply Dr. Keen gave some interesting reminiscences of his recent travels in many of the obscure, out of the way corners of the world. He spoke of the frequency with which he met graduates of the Philadelphia Schools in the East. He made an eloquent plea for the development to the highest possible standard of the scientific and practical departments of medicine in order that America might intellectually take a foremost place among the nations of the world.

Dr. Chalmers Da Costa, in a most happy speech, told of Dr. Keen's merits as a teacher, while Dr. Hare gave a number of interesting reminiscences of Dr. Wood's work in his long career as Professor of Therapeutics at the University.

One behalf of the guests, beautiful loving cups were presented to Drs. Wood and Keen.

One feature of the dinner must have impressed everybody—the unusually high quality of the speaking. Nothing could have been more felicitous than the way in which Dr. Musser introduced the speakers. Dr. Wood's address was a rare treat, and the speeches of Dr. Keen and Chalmers Da Costa showed that the tongue could be as facile as the scalpel.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

DIFFUSE THICKENING OF THE SKULL OF A CHILD—CASE OF POLIO-ENCEPHALITIS INFERIOR—DISLOCATION OF THE EYEBALL; REDUCTION; RECOVERY—BIRTH-PALSY OF THE SIXTH AND SEVENTH NERVES ON THE SAME SIDE—CARCINOMA OF THE COLON, WITH SPECIAL REFERENCE TO THE OPERATION OF COLECTOMY—RECENT ELECTRO-THERAPEUTIC AND OTHER MEANS OF TREATMENT OF LUPUS, RODENT ULCER AND EPITHELIOMA—ACROMEGALY AND GIGANTISM.

THE fall sessions of the British societies have begun with their usual activity. From numerous meetings which have been held in the last month, the following report is offered as of great interest.

F. W. ANDREWS, at the Pathological Society, Oct. 21, 1901, showed the skull of a male child, aged four and a half years, which presented great thickening of the entire vault, and, to a lesser degree, of the jaw bones. The child was imbecile. No other bones were known to have been affected. The skull was markedly asymmetrical. The bones affected were all membrane bones, viz., in the vault, the frontal, parietal and interparietal region of the occipital; and in the face the lower jaw and to a slight extent the upper jaw and malars. The temporal bone was unaffected. There was complete synostosis of all the sutures of the vault, but those of the basis cranii were natural. The thickening of the vault was sharply defined and greater over the frontal and parietal bosses than elsewhere. The greatest thickness was eleven-sixteenths of an inch. The distinction between the diploe and the tables of the skull was lost. All was uniform, dense, cancellous bone showing a normal microscopic structure with widened Haversian canals. The nature and causation of the condition were obscure. There was no history indicating congenital syphilis, nor was there any syphilis found during the life or postmortem, nor of rickets. Osteitis deformans was a disease of later life. The term "hyperostosis cranii" had been used for the condition which seemed more allied to leontiasis ossea than to any other affection, though in this instance the calvaria and not the bones of the face, took the chief share in the disease.

Dr. F. E. BATTEN showed macroscopical and microscopical specimens of a case of polio-encephalitis inferior affecting the nucleus of the seventh nerve on the right side. The patient was a child, aged five years, who was taken ill with paralysis, with difficulty in swallowing, due to weakness of the right side of the palate. There was no paralysis of the limbs or ocular muscles. Vomiting was present. There was no loss of consciousness. The child died from respiratory failure three days later. The specimen showed an acute congestion, most marked in the region of the seventh nucleus of the right side, with thrombosis of the finer vessels, hemorrhage and exudation of small round cells, with complete destruction of the cells of the nucleus. The lesion could be seen both macroscopically and microscopically. In the seventh nucleus of the left side, and in the sixth nucleus of either side there was but little change apart from some slight engorgement of the vessels. There was considerable perivascular engorgement and some exudation of round cells in the medulla in the region of the ninth, tenth, eleventh and twelfth nuclei, rather more marked on the right side than on the left, but at no point was there present the marked destruction that was found in the region of the cells of the seventh nucleus. The lesion was of vascular origin, and exactly corresponded in appearance with that found in an acute anterior poliomyelitis and an acute polio-encephalitis superior. The frequency of acute anterior polio-myelitis during the month of August of the present year was alluded to, and the present was considered to be of the same nature.

E. NETTLESHIP, at the meeting of the Ophthalmological Society, Oct. 16, read a communication from Mr. H. Baldwin Clifford, describing a case of dislocation of the eyeball through the palpebral aperture, as the result of a blow. The globe was replaced by careful taxis and the patient was kept for 14 days in the dark. Smoked glasses were worn for three months, and at the end of that time vision was perfect.

Mr. Nettleship also described a case of birth-palsy of the sixth and seventh nerves on the same side (right). The mother was thirty years of age, and delivery was rendered difficult by brow presentation. The blades of the forceps were applied to the right mastoid region and in front of the left ear respectively. The head was conical from pressure at the pelvic brim, but there were no asphyxia and no swelling or extravasation in the scalp. The child was born at term and weighed seven and a half pounds. The lid of the right eye was closed and there was an internal squint, also spasm of the hands and arms. When three days old it was noted that there was complete paralysis of the right side of the face, with internal squint. The pupils reacted readily to light, though with small range of movement, and there was no swelling of the eye or proptosis. On the fifth day sensation in the fifth nerve area appeared to be equal on the two sides; the child paid no attention to noise; the center of the fundus was well seen, and a small hemorrhage was detected below the right disk, the vessels being normal. At the end of a month the paralysis had diminished, and after nine months it had disappeared. Recovery was complete, hearing being normal on the two sides and the disks being natural. At no time was there any sign of local hemorrhage, either in the lids, the globe or the orbit. The injury was apparently a single

intracranial hemorrhage, at the base of the petrous bone, involving the sixth and seventh nerves in the beginning of their course, where they were close together. Birth-palsies were not uncommon, but the involvement of these two nerves was exceptional. Mr. Nettleship cited another case following tedious labor (the mother being thirty-four years of age) in which these two nerves suffered, but with separate lesions, the seventh by pressure of the forceps in the parotid region, and the sixth by damage in the orbit. The eyelids in this case were swollen, and recovery was incomplete.

Mr. H. LITTLEWOOD, at a meeting of the Leeds and West Riding Medico-Chirurgical Society, held October 17, read a paper based on the study of 25 cases of carcinoma of the colon which had occurred in his practice during the past three years. The subject was dealt with under two headings: (1) Diagnosis and (2) treatment. He pointed out that an early diagnosis was often difficult but of the greatest importance, for then the most satisfactory results by operation were more likely to be obtained. He divided the growths into two classes, (1) one in which a very obvious tumor was present; and (2) in which the growth was only a constricting ring which it was often impossible to make out by palpation. He thought that the larger growths were very rarely found beyond the transverse colon, and that there was less likelihood of symptoms of obstruction in these cases, as contraction was not usual, and the nearer the growth to the cecum the less probability there was of obstruction by solid feces. As regards treatment, if there was any obstruction, he strongly advised colectomy, with end to end union, and referred to a series of 14 cases of carcinoma of the colon, eight of which had been thus operated on, and six of which had been successful and two had been fatal. In one of the fatal cases, that of a woman aged twenty-eight years, obstruction was present at the time of operation. In the other fatal case, that of a woman aged sixty years, a growth in the transverse colon was found and excised after the removal of a very adherent ovarian cyst. In another fatal case in which the whole of the cecum and colon were removed in a man, aged sixty-five years, a lateral anastomosis was made after closing the divided ends of the bowel. Three cases had been operated on during the stage of acute obstruction. Typhlotomy was performed and later the growth was excised and end to end union made. Two of these patients recovered. Two other cases were described in which the operation was performed during the stage of acute obstruction, and a loop of the sigmoid, with the growth, was withdrawn, through an opening in the left side above the iliac crest, the loop being excised a fortnight later. Both cases progressed well, and the patients were still living. The first case was operated on three years and four months ago. Out of the 14 cases there were four deaths. The positions of the growths in these 14 cases were: Cecum and ascending colon, two; hepatic flexure, two; transverse colon, two; splenic flexure, three; descending colon, one; sigmoid flexure, three; and top of rectum, one. No mechanical apparatus was employed to approximate the divided ends, which were united by means of two rows of continuous sutures of catgut, interrupted at two or three points of the circumference, one row for the mucous membrane and the other row for the seromuscular coats. Mr. Littlewood also discussed the operations of colotomy and typhlotomy in relation to cases where removal of the growth was inexpedient, and he quoted cases to exemplify his views.

Dr. JOHN MACINTYRE gave a demonstration before the Glasgow Medico-Chirurgical Society at their meeting of October 3, of Recent Electro-Therapeutic and Other Methods of Treatment of Lupus, Rodent Ulcer and Epithelioma. He began his demonstration by explaining theories and principles underlying treatment by light, Roentgen rays, high-potential and high-frequency currents. He described and showed many of the special forms of apparatus and improvements which had been brought out during the year, also special sets of electrodes of his own designs for affections of the nose, throat and other cavities. Dr. Macintyre next entered into consideration of the reasons for selecting any one of these forces in preference to the others, because similar results might be obtained by more than one of them in the same class of affections. Passing to the consideration of the clinical results he referred to a number of cases under his care of lupus which had not improved under other methods of treatment and which had been successfully dealt with by one or the other of the newer methods. As instances of these he referred particularly to one case of lupus of the nose, throat and face of 46 years' duration which had yielded to high-potential currents and X-rays, and also to another case in which much benefit had been gotten after 30 years' illness. He next dealt with the question of rodent ulcer, which he thought in the present position of research, ought to be separated in classifying results, from genuine cases of epithelioma, because clinically and pathologically, although sometimes regarded as carcinoma it differed so much from what was usually understood by the term "malignant disease" that they could easily classify the cases in a group by themselves. Rodent ulcer was often meant when the writer described it as superficial carcinoma, superficial epithelioma, etc. In most of his cases benefit was obtained, and probably the best result he had to record was in a case of rodent ulcer treated by him now nearly three and a half years ago. In this case the patient had been three times surgically operated on with rapid recurrence. On the other hand he mentioned one case of rodent ulcer on the side of the nose which had invaded the maxillary bone, and in which none of the methods mentioned above, after a fair trial of each, had done any good. Passing to the question of true epitheliomatous growths, Dr. Macintyre referred to the cases at home and abroad which had apparently been cured or benefited and placed on record, and of the results in his own experience he described (1) an epitheliomatous growth, filling the whole nasal cavity and passing behind the upper lip to the gums near the roots of the incisor teeth, which entirely disappeared under treatment and (2) a case of tumor of the breast, still under observation, in which the malignant neoplasm on the left side had disappeared, and the other side was rapidly making satisfactory progress. Inoperable cases were also considered and Dr. Macintyre next referred to the great relief from pain which often took place during treatment, also to the disappearance of indurated masses, edema, pressure symptoms and enlargement of glands, even in cases that were surgically considered inoperable. The results in sarcomatous cases were also mentioned, as well as the chances of future progress in the treatment of these and other affections. Lastly, the question of how these forces acted and the theories involved were referred to, and also the microscopical appearances of sections of the tissues while the treatment was being pursued. In conclusion, Dr. Macintyre referred to the reserved and dignified attitude which the profession had maintained in reporting upon cases of malignant disease treated in the way indicated, a course which was no doubt due to the responsibility felt by those who had occasion to write upon the subject. False hopes were easily raised, and a reaction in thought might result, were this fact forgotten. Until more is known about the results of these forces in the treatment of malignant

disease he thought it better to reserve them for cases in which surgical interference was not advisable, or where recurrence had taken place after operation, but it ought to be remembered that it had been from such unpromising cases that the results already put on record, such as they were, had been obtained.

Dr. G. A. GIBSON delivered an address on Acromegaly and Gigantism at the meeting of the Norwich Medico-Chirurgical Society, held October 7, of which the following is an abstract: Dr. Gibson gave a brief historical account of the development of our knowledge of these two allied conditions. He pointed out that when first described by Marie in 1886, acromegaly had been originally conceived as hypertrophy of the hands and feet, but that since the original description, much had been added to the symptomatology of the affection, and that, in addition to the enlargement of many of the bones, both external and internal soft tissues underwent increase in size. He then gave a lantern demonstration of photographs and skiagrams of three cases. Proceeding to discuss the morbid anatomy of the condition, he showed that the one constant factor had been an enlargement of the pituitary body. In 48 cases which had been examined postmortem, there was a pituitary change in 44, but it was certain that the remaining four cases had not been satisfactorily investigated; in fact, there was some doubt as to their being cases of acromegaly. He further stated that there were on record two cases in which alterations in the size and structure of the pituitary gland had been seen, while no symptoms of acromegaly had been present during life. Turning to gigantism, Dr. Gibson related the interesting description by Prof. D. J. Cunningham of the Irish giant, Cornelius Magrath, and his discovery that the condition of gigantism depended, like acromegaly, upon a change in the pituitary body. Through the kindness of Prof. Cunningham he was able to show some beautiful photographs of the Irish giant, as well as of some other well-known giants. He stated his entire agreement with the suggestion of Dr. Woods Hutchinson that gigantism only differed from acromegaly in respect to the age at which it began. Apparently when the pituitary change occurred in early life, before the union of the shafts of the long bones and their epitheses, gigantism was the result, whereas when the pituitary change only began, as was commonly the case in acromegaly, at the age of twenty-five or twenty-six years, acromegaly resulted. He drew an analogy between this interesting fact and the well-known observation that in cases of cretinism the use of thyroid extract only produced growth when the patient was sufficiently young to have the epiphyses still ununited. Dr. Gibson then discussed the structure and physiology of the pituitary body, dwelling particularly upon the work of Dr. W. L. Andrienzen and Prof. E. A. Schaefer. He pointed out that, so far, it had been impossible to correlate these interesting researches with the well-known facts of acromegaly and gigantism. As to the practical deductions to be drawn from the facts which he had laid before the society, he expressed his opinion that, by the use of thyroid substance in the early stages of acromegaly, an arrest of the further progress of the disease had been secured, while improvement under the same treatment had actually occurred. In this connection he cited some useful experiences which he had met with.

SEXUAL OSPHRESIOLOGY.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The association of disorders of the olfactory organ with disturbances in the sexual sphere has been several times pointed out. It appears that turgescence of the nasal mucosa with sneezing or catarrhal symptoms is not an uncommon phenomenon with sexual overindulgence or excitement.

The following case shows a presumably genuine pathological connection between these widely separated and physiologically dissimilar organs.

The patient is a native of Illinois, twenty-nine years of age, large, very fat, in-kneed and very feminine in appearance. He has very marked arrest of development of the genital organs. The penis is the size of a paper cigarette and perhaps half its length; the testicles are not larger than prune pits. There is no definite scrotum, merely a bulging with a shallow median groove. He has absolutely no sexual desire; has never had an erection or seminal emission. In addition to this genital anomaly there is complete anosmia. Strong, pungent odors cause irritation of the Schneiderian membrane, but no sense of smell. There is a secondary, not very notable perversion of taste. Rhinoscopic examination shows nothing wrong. BERNARD WOLFF, M.D.

Atlanta, Ga., Nov. 1, 1902.

THE QUESTION OF ALCOHOLISM.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The enclosed manifesto or declaration of principle on the alcoholic question has been signed by over 1,000 physicians in England and on the continent, and is designed to represent the best judgment and experience of the members of the profession in the civilized world. The purpose of this is to give expression and assist in the correction of the alcoholic evil and indicate the sympathy and interest of the medical men in the great struggle to combat the evils which follow from the indiscriminate use of alcohol. This is the fourth declaration which has been made by the medical profession in the last sixty years. The following is a copy of the declaration:

"The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source.

In view of the terrible evils which have resulted from the consumption of alcohol, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages.

We think it ought to be known by all that:

1. Experiments have demonstrated that even a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the functions of the cells and tissues of the body, impairing self-control by producing progressive paralysis of the judgment and of the will; and having other markedly injurious effects. Hence alcohol must be regarded as a poison, and ought not to be classed among foods.

2. Observation establishes the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life.

3. Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and re-

cover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol.

4. All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers.

5. Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally, and physically. Thus deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved the importance and danger of this increase cannot be exaggerated.

Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical, and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy, disease, and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest, and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural.

We believe that such an era of health, happiness, and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

I have been appointed to solicit the signatures of American physicians to this declaration. The last declaration issued in 1871, containing 3,000 signatures, of which only 38 were that of American physicians, this did not represent America as fully as it should. It is expected that this one will be signed by a much larger number, and any physician who is willing to help on this great work should send his name, titles and address to me, either in a note or on a postal card. I will send them to the London committee for their publication during the coming year. I am sure American physicians will respond as enthusiastically to this appeal as physicians in any other part of the world.

Address

T. D. CROTHERS, M.D.

Hartford, Conn.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting held Thursday, November 6, 1902.

The President, Robert F. Weir, M.D., in the Chair.

THE first order of business was the delivery of the anniversary discourse by Dr. Andrew H. Smith, who discussed The Past, Present and Future of the New York Academy of Medicine. Dr. Smith spoke of the condition of the library and of the recent accessions. His review of the condition of the periodical department was especially interesting. Since his report in 1898, when the Academy was receiving 884 periodicals, there have been some births, deaths and marriages in this department. The most serious depleting factor of these interesting beings is infantile mortality. In old age occasionally a few die—usually of failing circulation. Very paradoxical, however, most of them grow more vigorous as they grow older and their circulation is better even than in their earlier years.

The Academy and the Health Department.—The Health Department of the city of New York is really a child of the New York Academy of Medicine, its organization being due to a recommendation of the Academy. There remains work in this same line for the Academy to do as yet, that is in making recommendations and some of the recent resolutions in this regard have had a very satisfactory effect. The recommendation of the Academy with regard to the order of the Treasury Department forbidding the landing at the port of New York of tuberculous patients, stopped the hand of the Treasury Department in what the Academy called an inhumane proceeding, but that if carried out could only be characterized as inhuman without the 'e.' It is as important for the Academy of Medicine to watch over the public health as to hold scientific discussions or maintain a library. By carefully looking out for opportunities where interference by recommendation and advice can be of effect the Academy will do great good and besides acquire prestige. The Academy should stand in the place of a family physician to the public. One of the most striking features of everyday life is the lack of knowledge and the need of direction with regard to medical affairs. There is a collective need of information and only a collective teacher, such as the Academy is, can supply it. The Academy should be the representative of modern scientific and practical medicine in the largest sense of the word and should stand between the public and quacks and charlatans who would impose upon it. There are many other ways in which the Academy's influence might well be felt.

Political Abuses.—An example of where the Academy's influence might have been used to good purpose, Dr. Smith pointed out, as occurring on the question of the transfer, two years ago, of the documentary records of the Board of Health from its fireproof quarters in the Criminal Courts Building, to a building that was entirely lacking in fireproof qualities. The Department of Health records contain a mass of important statistics and absolutely necessary legal records that could not be duplicated in case of fire. The marriages and births and deaths of the city are formally inscribed there and the legitimacy of children and marriage and property questions may well depend upon some of the precious data thus carelessly stored away. If the Academy of Medicine had been properly in touch with the Health Department at the time that the transfer of the records was under consideration, it might probably have secured by earnest protestation some guarantee that no such unwarranted danger should be incurred.

Hospital Conditions in the City.—Dr. Smith spoke of the disgraceful condition that exists in some of the city hospitals of New York and called attention approvingly to the fact that the MEDICAL NEWS considered that the blame for this condition lay not alone with the public or the Department of Health, but also with the medical profession of the city. The Academy of Medicine should have been in touch with conditions so that the present state of things would not have developed without proper protest and the recommendation of methods for its amelioration.

The Medical Profession and the Public.—Dr. Smith said that while in the last 25 years there has been an unexampled advance in scientific medicine, yet there is a distinct popular tendency to go back to medieval consideration in the matter of therapeutics. Scientific medicine is not adequately interpreted to the public. As a consequence we have the inane drivel of Christian Science and the absurd claims of osteopathy as prominent factors in the popular medical life of the day. The upholders of these doctrines are ready at all times and on all occasions to expound their principles and the public are ready to listen. There must be more ex-

position of scientific advances done in a manner to instruct and not advertise the expounder. As the result of public ignorance there is not one physician on the list of the Hall of Fame. Surely some of the American physicians well deserve a place as benefactors of mankind. When we consider all that abdominal surgery has done for the relief of human ills it cannot be doubted that the name of Ephraim MacDowell will live for many generations. The discoverer of anesthesia deserves a place in any record of great men for the greatest humanitarian advance ever made. There is not publicity enough in medical matters and the Academy should make itself an agent for the proper instruction of the public. This should be as much a duty in its developing future, as any other that can be mentioned.

Yellow Fever in the Past.—Major Gorgas, U.S.A., formerly Chief Surgeon-in-Charge of Havana during the time of the American occupation, spoke of the disappearance of yellow fever from Havana. He said that while at the present time yellow fever is supposed to be confined to the West Indies and certain parts of the Gulf of Mexico with part of the Atlantic shores of South America, about 100 years ago it seemed as though the disease would become endemic in many of the large cities of this country. New York suffered very severely from yellow fever and Boston more than New York, and Philadelphia more than either of them. New York's death rate from yellow fever 100 years ago was higher than Havana's.

Clinical Yellow Fever.—The disease usually lasts eight or ten days, being accompanied by a vomiting of dark biliary material and blood, whence the name black vomit. As a rule, during the course of the disease jaundice develops and hence the name yellow fever. There are some very curious features of its spread. While it is endemic in the West Indies it has spread occasionally of late years to the Atlantic and sometimes even to the Pacific Coast. It occurs in epidemics on the coast of Africa, but has never been known to occur in India or China. It is now known why it does not occur in these distant countries. Yellow fever is not carried in fomites, as used to be thought, but is conveyed by a particular form of mosquito, the *Stegomyia fasciata*. Patients are capable of furnishing the mosquito with contagious material only during the first three or four days of the disease. The length of the voyage to India and China is too great to permit of patients in the contagious stage reaching their ports. Perhaps, too, there are no *Stegomyia* mosquitoes in those countries. This is a question that must yet be decided.

Old Time History of Yellow Fever.—A hundred years ago our northern cities, as yet in the stage before the introduction of regular waterworks, had various receptacles for water in and near every house. Hence, when yellow fever was introduced, mosquitoes were abundant and found excellent breeding places in these standing water places. All conditions were favorable for its spread. Curiously enough it was noted that frost and even comparatively low altitude proved a barrier to the spread of yellow fever. This would not have been the case if the disease were conveyed by fomites, but now that we know that the distributing agent is a mosquito these old-time anomalies of distribution confirm the theory that the disease is mosquito-borne.

Vera Cruz and Mexico.—It has hitherto always been something of a mystery why Vera Cruz, which is really the port of the City of Mexico, frequently has cases of yellow fever in it and yet notwithstanding its intimate relations with the capital city of Mexico, no epidemic of the disease has ever occurred in the capital. The reason is easy to see now, since Mexico is situated at a high altitude, at which the *Stegomyia* can not exist. There is a history of yellow fever at Vera Cruz extending back to before the occupation of the country by the whites. Shortly before Cortez conquered Mexico, Montezuma had invited one of the tribes of the interior to take up their residence at Vera Cruz because so many of the inhabitants had perished in an epidemic the meager description of which that has come down to us seemingly characterizing it as yellow fever. This was not the first time in the history of the country that a similar incident had happened.

Mosquitoes and Yellow Fever.—It is easy to understand now how yellow fever was transferred from tropical America to the northern cities. Many sailing vessels, for instance, came up the Delaware to Philadelphia. These vessels not infrequently took aboard a cargo of mosquitoes as well as whatever else was carried from the West Indies. Often some of the sailors who had been ashore developed yellow fever during the voyage north and thus many of the *Stegomyia* mosquitoes would become infected. These would find ample opportunities for breeding in a city like Philadelphia, where every house had its own cistern and rain water was carefully preserved in some sort of open tank for household use, and so it is not surprising that for 12 years in succession yellow fever reappeared there every year.

Yellow Fever Endemic.—In recent years only two cities remained in which it was positively known that yellow fever was endemic. These two were Havana and Rio Janeiro. Yellow fever occurred at intervals at other ports, especially Vera Cruz and certain of the cities of the Gulf of Mexico, but it never lasted for more than a year or two and usually it did not pass beyond the first frost, when the mosquitoes were killed. With regard to the endemicity of yellow fever it must not be forgotten that as yet we do not know exactly how long the *Stegomyia* may live. A specimen of this variety of mosquito lived in captivity in Havana under the care and watchful vigilance of the army medical department for 105 days. This would make an overwintering of yellow fever at least a possibility.

For over 130 years yellow fever has practically never been absent from Havana. Every year the death lists showed more or fewer deaths. Often there were over 1,000, seldom were there less than 500 deaths from the disease. When the American authorities occupied the city it was hoped that the enforcement of sanitary regulations and the introduction of sanitary measures of various kinds, would reduce the death-rate from yellow fever. It did reduce the general death-rate of the city by more than one-half during the first year and before the American occupation ceased and Havana was handed over to the Cubans the death-rate of the city was less than that of many of the cities of the United States. Notwithstanding the decrease in the general mortality, the yellow fever death-rate held its own. In 1898 there were 138 deaths from the disease. In 1899, 102 deaths, in 1900 over 300 deaths.

Class of Victims.—These deaths from yellow fever took place not particularly among the lower classes of the population of Havana, but from among its most intelligent inhabitants. Many of the victims were people who could be depended on to have taken absolutely all the hygienic precautions possible in order to avoid infection. Nearly one-half of the Governor-General's staff fell victims to the disease. Old inhabitants of Cuba began to say that yellow fever thrived on sanitation and with the new-fangled notions of the Americans, far from being eradicated, it was rather being encouraged in its ravages.

Application of Mosquito Theory.—This was the state of affairs when it was resolved to treat yellow

fever entirely as if it were conveyed by mosquitoes and by no other agency. Within two hours after a case of yellow fever was reported, the patient was thoroughly screened from the approach of mosquitoes by netting. All the windows and doors of the house were also screened. Then all its rooms were carefully fumigated by burning pyrethrum powder and after this the bodies of the mosquitoes were swept up and burned, for it was found that sometimes the insects did not die from the fumes, but were only rendered comatose. Neighboring houses were also fumigated. As soon as the mosquito theory was adopted in practice all breeding places for the mosquito—and these would be especially all vessels or pools containing standing water, were drained and cleaned and covered from the possible approach of mosquitoes. Havana's water-supply brings very hard water into the city, and so practically every house had some means of collecting rain water. All these receptacles, tanks, barrels, hogsheads, cisterns, and so forth, made ideal breeding places for the Stegomyia. Most of the houses of Havana also have cesspools and though these are covered and probably not frequent breeders of mosquitoes they were treated with petroleum once a month. All swamps, marshes and so on, near the city were drained or treated with petroleum. The latter method was considered very unsatisfactory and practically a confession of defeat. It is surprising how little drainage is necessary in order to secure the drying up of moist, swampy places, once an effort is made for this purpose. Marshes disappeared as if by magic under the direction of the medical inspectors backed by the liberal encouragement of the authorities and the medical Governor-General. All non-immune patients who entered Havana were inspected every day for six days in order to give assurance that the disease was not developing insidiously. The advisability of this procedure is seen from the fact that 27 cases were thus discovered very early in the disease and were immediately screened from the approach of mosquitoes. These might easily have become sources of infection for a population.

Results.—The results of these sanitary precautions were soon seen. During January, 1901, there were seven deaths from yellow fever. The precautions against mosquitoes were not put into effect until towards the end of February and five deaths took place during this month. In March there was but one death from yellow fever. In April, May and June there were no deaths. One case was reported in July and after a month's interval, another in September. Since September, 1901, there has been no case of yellow fever that developed in Havana itself. This is the first time in over 130 years that Havana has been a full year without yellow fever. The results in the destroying breeding-places for the mosquitoes may be seen from the fact that when the system was introduced 26,000 breeding places were reported. In 1902 close inspection showed only 3,300 all over the city.

Effect on Malaria.—The result of this crusade on the mosquitoes was also a noteworthy reduction in the number of cases of malaria reported. During the year before the mosquito work was begun, 300 cases of deaths from malaria were reported in Havana. During the last year there have been less than 150 deaths in the city from that source. For the present year statistics seem to indicate that there will be less than 90 deaths from this disease. Some of the swampy parts of the city looked hopeless in the matter of prevention of mosquito breeding. It is surprising what a little ditching sometimes serves to make a field dry. It seems probable that Havana can now secure immunity from yellow fever by simple insistence on the precautions that have been pointed out. Within the next decade, perhaps, yellow fever will have disappeared as a factor in the mortality records of North America. There is no reason to doubt that the disease can also be eradicated quite as effectively in South America and especially in Rio Janeiro, which has for so long proved a source of yellow fever for other cities.

Yellow Fever Not Contagious.—Major Ross of the United States Navy said that the whole aspect of the question of the contraction of yellow fever has been changed by the success of the prophylactic measures dependent on the mosquito theory. Ships frequently touch at Havana with cases of yellow fever on board. Sometimes these are carried three miles inland to the hospital, carefully covered with mosquito netting, of course, and there is not the slightest apprehension of the affection spreading in the city. The present object of sanitary regulations is not so much to protect other people from infection, as to protect the mosquito from infection. When a member of a family is stricken with yellow fever, the patient is not segregated absolutely, but may be visited freely by other members of the family. A little Syriac child became affected with the disease on shipboard not long ago and its mother was allowed to be with it during its illness. The other members of the family also visited it. No yellow fever cases have ever developed because of these privileges.

Historical Anomalies of Yellow Fever.—Major Ross said that the mosquito theory of the conveyance of yellow fever explains many things that before were mysterious in reference to the spread of the disease. In 1878, for instance, one of the wooden ships of our old Navy touched at a port in the East Indies in which there was yellow fever. During the voyage north seven cases of the disease developed. The ship was put out of commission and thoroughly cleansed and was not occupied during the winter months. In the springtime a complete set of new stores were put on board and the ship sailed for the tropics. Before she had touched at any port several cases of yellow fever developed. Various theories for the origin of the disease were offered. It was considered that somehow the virus of the disease had been taken up in the woodwork of the vessel or had been fostered amidst the rotting timbers. Now it is easy to understand that what really happened was that certain Stegomyia mosquitoes which had been taken aboard the vessel at the Southern port during the preceding autumn and had found their way to the yellow fever patients during the epidemic had hibernated in the vessel and when the warmer spring weather, especially as the ship ran farther south, came on, they became once more active and the result of their bites was the development of the new cases of yellow fever.

Stimulating Example.—Dr. Walter B. James in discussing Major Gorgas' paper said that what has been accomplished in Cuba should serve as a model for this country, where many things remain to be done in the improvement of sanitation. Fortunately in Cuba the presence of a medical man as Governor-General smoothed over most of the obstacles that usually make sanitary progress slow or even impossible. The time has now come when medical men should make themselves felt in municipal affairs in matters of health. A physician as mayor of a city may accomplish much for the alleviation of insanitary conditions that might be impossible for anyone less confident of the vital necessity for the work.

Cholera in Manila.—The cholera has broken out in the Fifth Infantry which is quartered in Manila. Seven enlisted men have died up to November 12.

BOOK REVIEWS.

A PHYSICIAN'S PRACTICAL GYNECOLOGY. With five full-paged illustrations and sixty-one illustrations in the text. By W. O. HENRY, M.D., Professor of Gynecology in the Creighton Medical College. The Review Press, 1902.

MANY excellent text-books have been published lately, on the subject of gynecology, but this little book is not to be classed with them. It would seem that the desire to see one's self in book-form had become a mania, and the disease has become epidemic. Dr. Henry's publication is scarcely worthy of serious consideration as such, and we can see no excuse for its existence. Gynecology is too large a subject to be treated intelligently in so small a volume as is here presented.

In endeavoring to be concise, the author has ignored details which are vital, in an intelligent appreciation of the subject by an uninitiated beginner. Thus the desired end is not obtained, and the object of the writer is lost.

Far better would it have been to have entitled the book, "An Outline of Gynecology," or some kindred name, which might have conveyed the correct idea of the text here printed.

In all probability, the author has taken the outlines from his lecture-notes and filled them in, in certain rare places, in order to construct what he calls a Practical Gynecology. There is no evidence of originality in either the text or illustrations; both are in spots, antiquated. However, the book will doubtless achieve local reputation and will become a very convenient quiz compend for the course in the Creighton Medical College.

YEAR-BOOK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, 1901. Washington, Government Printing Office, 1902.

THERE are always a certain number of articles of interest to the medical profession in the Agricultural year-book and this year's issue is no exception to the rule. Dr. L. O. Howard, the head of the Bureau of Entomology has an excellent article of nearly 20 pages on insects as carriers and spreaders of disease. Dr. D. E. Salmon has a good review of recent experience with the tuberculin test for tuberculosis. Professor W. O. Atwater has a suggestive article on dietaries in public institutions. This is the result of Professor Atwater's investigation into the feeding of the insane and other inmates of New York State public institutions.

Dr. Howard has also an article on experimental work with fungus diseases of grasshoppers which will be of interest to the bacteriologist. In the appendix there is an account of the plant diseases in the United States during 1901 which will prove of special interest to those who consider that comparative pathology including even the diseases of plants may be of importance in suggesting a possible source of diseases among human beings at times. This year's year-book is beautifully illustrated in colors and a credit to the department.

KIRK'S HANDBOOK OF PHYSIOLOGY. Revised by WILLIAM ROCKWELL, JR., M.D., and CHARLES L. DANA, A.M., M.D., Professor of Diseases of the Nervous System, Cornell University Medical College, New York; Physician to Bellevue Hospital; Neurologist to the Montefiore Home. Seventeenth American Edition. William Wood & Co., New York.

KIRK'S Handbook is too well known to need any words of praise and the fact that this is the 17th American edition is of itself ample proof that the book is filling a place of its own in American medicine. The chapters on nervous physiology are particularly complete, yet eminently concise and are a credit to the American editor. The whole book is beautifully gotten up and is especially well illustrated. The illustrations in color are faultlessly done and none of them are introduced without the manifest purpose of adding to the clarity of the text. The publishers are to be congratulated on keeping the book so well up to date.

PRINCIPLES OF SANITARY SCIENCE AND THE PUBLIC HEALTH. With Special Reference to the Causation and Prevention of Infectious Diseases. By WILLIAM T. SEDGWICK, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology. The Macmillan Company, New York.

THE author's opening quotation is we believe peculiarly happy "With all deductions, the triumphs of sanitary reform as well as of medical science are perhaps the brightest page in the history of our century;" and we trust the end is not yet, for there remain the great scourges, of mankind (tuberculosis and syphilis) to battle with, and further and behind the vast quagmire of human ignorance on matters sanitary is to be reclaimed by patient teaching with just such books as the one before us.

We believe this treatise to be one of the best that we have seen for its size. It is simple in statement and yet thoroughly scientific and withal very entertainingly written. The opening chapters on health and disease particularly make a popular presentation, the equal of which we do not know.

We should like to see a popular hygiene for the public schools framed on these lines and expressed in such simple and scholarly language.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By GWILYM G. DAVIS, M.D., Member of the Royal College of Surgeons, England; Assistant Professor of Applied Anatomy, University of Pennsylvania; Surgeon to the Episcopal, St. Joseph's and Orthopædic Hospitals. Philadelphia, P. Blakiston's Son & Co.

THIS book is designed especially for students, and the author has skilfully omitted unnecessary details in description. The illustrations are original, and are taken from drawings, so that the essentials are brought out more clearly than they could be by photographs. The author says that in the lower portion of the leg above the ankle and from the largest part of the calf to the knee-cap plain spiral turns are best; it is positively wrong to make reverses here, and figure 8 turns are unnecessary. We have not seen, for the student, a more suitable book on the subject.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By GEORGE F. BUTLER, Ph.G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth Edition. W. B. Saunders & Co., Philadelphia and London.

THE title of this book is in a sense broader than its contents. It is essentially a work on materia medica, and is as complete and as attractive a text-book as the student of medicine can desire. The term pharmacology is employed by the author in the restricted sense of pharmacodynamics, or the effects of physical and chemical agencies on living organisms. Aside from certain special articles or chapters, to which reference will hereafter be made, a statement of the physiological action of the drugs considered in this work is its sole claim to the title of a text-book of pharmacology. Similarly with regard to therapeutics. The chief therapeutic uses

of each drug are indicated lucidly and with commendable judgment; there is a useful clinical index, and the drugs discussed are grouped according to their therapeutic affinities, but electrotherapy, hydrotherapy, phototherapy, dietetic therapy, kinesotherapy and suggestion therapy are hardly more than mentioned, and in this edition for the first time. Their extension would be advisable.

As in the previous editions the pharmaceutical section is singularly complete. The opening chapters have been remodeled so as to be brought into accord with recent biology. The chapters on organotherapy, serumtherapy and cognate subjects have been enlarged and revised and much improved, while no exhaustive presentation of these subjects is attempted, facts which are clinically important are stated in a manner which will not confuse the beginner and which will enable him subsequently to pursue his study of these subjects intelligently. The same remark applies to an important addition from the pen of Dr. Martin H. Fisher, in which are discussed the newer theories of electrolytic dissociation and in which the author defines the relations of these theories to pharmacotherapy. Diagrammatic aids are not often employed in works on materia medica; a number of them have been introduced here, however, to illustrate the mechanism of physiological action. The one humorous touch in the book is the inclusion of two photographic plates of dead dogs. It is alleged that one was killed by strychnine-poisoning, while the other is supposed to be a victim of the poisonous effects of gelsemium. We strongly suspect that both dogs are shamming. The merits of the book are sufficient to insure its sale without these useless pictures.

NOTHNAGEL'S ENCYCLOPEDIA OF PRACTICAL MEDICINE. DIPHTHERIA. By WILLIAM P. NORTHRUP, M.D., MEASLES, SCARLATINA, GERMAN MEASLES. By THEODOR VON JÜRGENSEN, M.D., Professor of Medicine at the University of Tübingen. Edited with additions by WILLIAM P. NORTHRUP, M.D., Professor of Pediatrics in the University and Bellevue Hospital Medical College, New York, Attending Physician to the Foundling, Willard Parker and Presbyterian Hospitals, New York. Authorized translation from the German, under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. W. B. Saunders & Co., Philadelphia and London.

THE readers of this volume of the translation of the Nothnagel Encyclopedia will no doubt echo the opinion of the editor-in-chief of the series who says in his preface that while regretting the necessity which compelled the substitution of another article for the original one on diphtheria, this change has entailed no loss in value to the volume. The disease in question is one whose somber annals have been so profoundly altered for the better through the genius of a New York physician that it seems especially fitting that its discussion should have been entrusted to one who for years was associated with the gifted inventor of intubation, and it is pleasant to see that Dr. Northrup presents his article on diphtheria as a tribute to the memory of Dr. Joseph O'Dwyer.

The plan followed in treating the subject is the same as has been adopted by the other authors in discussing the topics allotted to them. History, Etiology, Pathology, Symptomatology, Complications and Sequels, Course, Duration and Outcome, Diagnosis, Prognosis, Prophylaxis, Treatment and Bibliography are the headings under which the author has grouped what may well be termed a monograph of the disease. The discussion of the bacteriology is very complete and in addition to numerous excellent photographic reproductions of individuals and colonies of the true and false organism under varying conditions of growth and environment, the technic of making and differentiating diagnostic cultures is fully described. The pathology also is considered in great detail and beautiful reproductions of microscopical preparations of the lesions in various organs are provided. The statistics bearing upon the prognosis are especially interesting and show that since the introduction of the antitoxin method the mortality has fallen from 70 per cent. to 16.6 per cent. That the influence of the time of beginning treatment is very marked is shown by a table which gives the mortality of cases coming under observation on the first day of the disease as 3.5 per cent., with rapid increases for each day of delay up to the fifth when it becomes 35 per cent.

The important subject of prophylaxis is treated according to the tenets advocated by the New York Board of Health, and statistics are given which strikingly show the value of prophylactic injections of antitoxin after exposure or during epidemics. The section on treatment naturally gives very extended accounts of the advantages of antitoxin and intubation. It is in his description of the latter subject that the author has risen to his highest pitch and this portion of the article stands unsurpassed for lucidity of description of the technic and force of argument in favor of its universal adoption. The illustrations are marvels of clearness and execution and the use of skiagraphs to show the progress of the tube from mouth to larynx is decidedly ingenious.

The value of the section on measles is greatly enhanced by the introduction of much information derived from the records of the Faroe Islands epidemic which for geographical and sociological reasons furnished unexampled opportunities for study. A point of interest in the author's chapter on treatment is the vigor with which he warns against the dangers of the old-fashioned belief that the measles patient should be kept in a dark room and *à propos* of this he says "the blessing which light and air prove to those who are ill with measles soon becomes apparent to even an ignorant observer." The American editor has made valuable additions on the subjects of Koplik's spots and the hematology, both of this disease and of scarlatina. A point that is as yet little known, but which is of great diagnostic value is the hyperleucocytosis which Renaud says begins with the infection and reaches its maximum eight or nine days before the eruption—that is, four or five days before the contagious period. The section on scarlatina is no less deserving of praise than its companions and represents a complete account of the modern knowledge on this subject. The American editor has here also made many useful interpolations, notably that on page 611 introducing the methods of quarantine and disinfection in use in the Hospital for Scarlet Fever and Diphtheria Patients in New York.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

A COMPEND OF HUMAN PHYSIOLOGY. By Dr. A. P. Brubaker. 11th Edition. Demi 8vo, 270 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

TREATISE ON DISEASES OF THE SKIN FOR THE USE OF ADVANCED STUDENTS AND PRACTITIONERS. By Dr. H. W. Stelwagon. 8vo, 1,125 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.